EMPLOYES' MAGAZINE

THE UNION PACIFIC COAL COMPANY

UNION PACIFIC COAL COMPANY — OLD TIMERS ASSN.

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FEBRUARY, 1934

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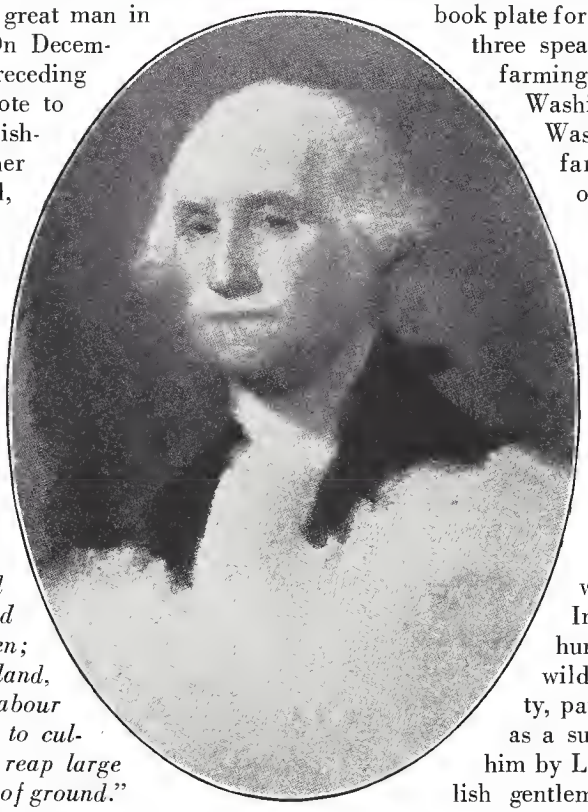
THE UNION PACIFIC COAL COMPANY

VOLUME 11 | FEBRUARY, 1934 | NUMBER 2

George Washington, Farmer

WITH each succeeding year, there is written and printed much that bears on George Washington, as an exemplary youth, a brilliant and courageous soldier, a great patriot and statesman. This month, the two hundred and second year after his birth, we will attempt to recount certain of the experiences of this great man in the capacity of farmer. On December 5, 1791, eight years preceding his death, Washington wrote to Arthur Young, an Englishman, who was the publisher of an early farm journal, a criticism of American farming methods, saying:

"The aim of the farmers in this country (if they can be called farmers) is, not to make the most they can from the land, which is or has been cheap, but the most of labour, which is dear; the consequence of which has been, much ground has been scratched over and none cultivated or improved as it ought to have been; whereas a farmer in England, where land is dear and labour cheap, finds it his interest to cultivate highly, that he may reap large crops from a small quantity of ground."



George Washington

One has but to observe the ragged condition of our present-day fields with a strip of ground covered with noxious weeds bordering same, and the idle acres that spot so many farms, to conclude that the condition that governed in 1791 has not changed much since that day. Even our western sheep and cattle ranges are frequently so over-grazed, that the little vegetal protection necessary to prevent erosion is being destroyed, rains and melting snows cutting and carrying away the surface soil, until deep gullies and surface gashes have permanently destroyed millions of acres.

The earliest Washington arms bore "3 cinque foiles," signifying that the family were land owners and farmers, and when Washington made a book plate for his library, he included the three spears of wheat to show that farming was his vocation. George Washington's father, Augustine Washington, left the son a farm on the Rappahannock, on which the father lived, containing two hundred and eighty acres, a share in some land lying on Deep Run, three lots in Frederick, a few negro slaves, and certain other property. He also held a reversionary interest in Mount Vernon, inherited by his half-brother Lawrence, where much of his younger life was spent with Lawrence. In 1748 he patented five hundred and fifty acres of wild land in Frederick County, paying for same by working as a surveyor, a vocation taught him by Lord Thomas Fairfax, English gentleman, who was compelled to survey his own lands until the youthful Washington became sufficiently proficient to relieve him of this task. In 1750, Washington bought four hundred and fifty-six additional acres; in 1752 he secured five hundred and fifty-two acres, and again in 1757 he acquired five hundred acres on Dogue Run near Mount Vernon, and now with 2,338 acres of Virginia land, this youth of twenty-one, whose glorious future was as yet unpredicted, possessed

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the foundation of soil ownership that came down to him through generations of English ancestry. It will be remembered that in that day and in the England from which the Virginian Colonists came, only a churchman or a land-owner received much worldly recognition, and in Virginia it was only the land-owner who was sent to the House of Burgesses to make the laws. In Washington's day the mass of humanity lived on the soil and cities were few and far between.

In 1752, Lawrence Washington died, and Mount Vernon with its two thousand five hundred acres, fell to his half-brother, George. The Mount Vernon estate had been granted to the Washington family by Lord Culpepper in 1674. When Lawrence married Anne Fairfax, he built for her a home of eight rooms, four on each of two floors, with a large chimney at each end. When Lawrence died, his wife retained a life interest, but when she remarried, she, with her husband, George Lee, deeded this interest to George Washington for an annual payment during Anne Lee's lifetime of "fifteen thousand pounds of tobacco or the equivalent in current money." From entries in Washington's account book, it is shown that the tobacco rental was worth from $400 to $500 annually. Mrs. Lee died in 1761 and Mount Vernon became the unrestricted property of George Washington, his land holdings now totalling 4,838 acres, or somewhat more than seven and one-half sections of land as we now measure same in the West.

With the close of the French and Indian wars, in which Washington was busily engaged, he came home, after resigning his commission as Colonel, marrying Martha Custis, the widow of Daniel Parke Custis, the richest woman of the Virginia countryside. Washington was then twenty-seven, six feet two in height, weighing one hundred and seventy-six pounds. The bride brought with her two children and property, including a number of slaves, worth about one hundred thousand dollars. It was then that Washington definitely decided to take up and live the life of a gentleman farmer, and he proceeded to enlarge his land holdings, until he held in all 12,463 acres of Virginia land, besides large tracts in the unsettled west. Although tobacco was yet the most important crop, the Virginia planters had begun to raise a substantial acreage of wheat and corn, the yield of wheat raised on exhausted tobacco land but eight or ten bushels per acre, no machinery yet in use, the wheat cut with sickles or cradles, and threshed with hand flails, or else it was trampled out by the feet of horses or cattle, driven around and around over the straw and, grain, resting on the dirt floor. Nothing was done to repair exhausted land, it considered cheaper to buy new land than to restore the fertility of the worn-out fields, and with a growing population of whites and slaves, food often became a problem, while the planter raised tobacco, a product that has added little to the real wealth of the world.

Virginia raised a few good horses, but very little stock, and that of inferior quality, and grass land was not considered a necessity, and so George Washington set himself to the task of lifting the agricultural industry out of the careless, haphazard position it then occupied. Our farmer, with that far-seeing vision that later enabled him to help lay the foundation of a great government, felt that future generations were being despoiled by the destruction of the land that the present owners merely occupied for life. Washington set about planned rotation of crops, the application of fertilizers, and most of all the creation of grass lands. This led to an attempt to improve the quality of the live stock raised. The sheep brought from Spain and the West Indies were small, more nearly resembling goats, their wool scarce and of poor quality. England and Spain then forbade the exportation of good sheep such as the Merino, and rams could only be obtained through the aid of smugglers, the forerunner of that much expanded profession of the present-day, the bootleggers. The hogs of that day ranged through the woods, half-wild, the prototype of the Ozark Mountain razor-backs of this day. The horned cattle also ranged the woods, living on twigs, leaves and weeds, instead of grass pasturage. They were likewise small and thin, and the cows often yielded but a quart of milk a day. Two problems served to make an improvement in farming methods difficult; the careless improvident quality of the slave labor employed and the readiness with which tobacco could be turned into cash, or traded for the luxuries that the proud Virginia planter felt he must have; clothes, wine, books and education for his children. The richness of the convenient fisheries and the existence of wild game made life relatively lazy for the improvident whites, who preferred a nomadic independence to steady labor. This situation represented a serious obstacle to progress.

It was because of the conditions outlined that Washington threw all his commanding genius into the work of improving colonial agriculture. To Arthur Young, English farm editor, Washington added other English farm correspondents, Sir John Sinclair and James Parkinson in particular. Young and Parkinson became so interested that they crossed the sea to visit Washington at Mount Vernon. Young was sympathetic and helpful, Parkinson quite cynical. In March, 1760, Washington sowed a small field of alfalfa, then called lucerne, one of the oldest cultivated forage plants in the world, originating in Arabia before the Christian

era, and which first gained world prominence in the province of Lucerne, Switzerland. The soil at Mount Vernon was not suited to lucerne, but Washington made it grow, and in the same year he sowed clover, rye, hope, trefoil, timothy, and other grasses and vegetables. Our farmer tried mixing wheat, oats and barley, using various fertilizers, including marle taken from the river beds.

Washington did not confine his experiments to new varieties alone, but he set about to devise new machinery for farm purposes. He invented a new type of plow which he wrote of in his diary, saying, "She answered very well." He also built a new type of harrow for use with small grain, employing "smaller and closer teethings." It was not until later in life that Washington learned to spell words and fashion his sentences correctly. As a young man, while capable of clear and beautiful penmanship, his composition was rather crude, but with the years came the ability to write words that rivaled those used in his Book of Common Prayer, the Bible, and the great English essayists of his day. George Washington rose in moral stature and intellectual ability with the passing of each year.

The conditions that confront the farmer of today harrassed the farmer of 1785. In that year a great drouth occurred, and Washington's corn was "fired," "chinch" bugs and Hessian flies attacked such corn as was left. Our farmer tried Siberian wheat, he plowed under rye and experimented with oats, carrots, Eastern shore peas, rib grass, burnet and other crops that might help restore his land. Washington also invented a plow with a dropping attachment to sow wheat, corn and oats, without the necessity of scattering the seed by hand. His work of discovery, invention and experiment, went ceaselessly forward.

George Washington was the first to attempt the raising of mules in America. Soon after the Revolution, he, with the aid of the American representative to Spain and the Spanish minister of state, procured two Spanish jacks and two jennets. One of the jacks died enroute and the other was brought down from Alexandria by his Spanish caretaker, accompanied by Captain Sullivan, an interpreter. The jack's negro groom, impressed with the importance of the far-traveled jack, named him "Royal Gift." His highness, however, never amounted to much, as like his fellow jack who died, he found the rough sea voyage too much for him. In 1786, Lafayette sent Washington from the island of Malta, a jack and two jennets. This jack was named the "Knight of Malta," and while he was not as large as "Royal Gift," he made up for lack of size with viciousness. The progeny of the two jacks was ultimately united, and a breed that Washington called "Compound" proved acceptable, making excellent work animals. It may be said that it was in the fields of Mount Vernon that the American negro first met the "Army Mule" of today, who yields greater obedience to the colored man than he willingly accords his white driver. The American mule has become a world institution. When the Boer War broke out in Africa in 1899, the United States was combed for mules for the use of the British Army, and again in 1914, England bought many thousand American mules for transport service in the Great War. There are about 5.500.000 mules in the United States, a source of power that goes back to "Royal Gift" and the "Knight of Malta."

One of the problems that confronted the Virginia planter was that of labor. To obtain labor one of two expedients became necessary; the importation or purchase of black slaves, or the purchase of white indentured servants. Many of the indentured whites were political offenders, men who had offended against the laws of England, others were real criminals, with a third and most unfortunate class, debtors who were sold in America instead of being sent to jail because of their debts. There were also a few men and women who voluntarily sold their labor for a term of years in order to obtain passage to America and a footing in the new land. Some of these were skilled in the trades, became able, self-respecting citizens, whose descendants now occupy first place in the nation's affairs. At times the white indentured workman would run away, and Washington would offer a reward for his return. As schools were few and far between the average parent who wished to educate his children had recourse to private tutors. At one time Noah Webster, who wrote Webster's dictionary, sought the position of tutoring Nelly Custis and George Washington Custis.

The principal portion of the work at Mount Vernon was carried on by the use of slave labor. Looking back to Washington's time, it seems strange that the man who championed freedom should be the absolute owner of men, women and children. Slavery was a recognized institution in Washington's day as it was in the South prior to the Civil War, and it should not be forgotten that the preservation of the Union was the cause that Lincoln upheld. The abolition of slavery was merely incidental to the main issue. Washington inherited ten or twelve slaves from his father, and in 1760 he paid taxes on forty-nine slaves; in 1770 on eighty-seven, and in 1774, on one hundred and thirty-five. Somewhat later Washington had so many slaves that he could not easily sustain them and their families and with a positive aversion toward selling them, he was in a quandary. Washington's army of blacks totalled two hundred and sixteen in 1786.

While Washington made no apparent effort to educate or otherwise improve the intelligence or morals of his blacks, he did look after their health, employing a physician by the year. The records indicate that Washington once sent a black boy, bitten by a dog, to Lebanon, Pennsylvania, for treatment to avert hydrophobia; another black was sent away for an operation to remove cataracts from his eyes. Once when smallpox broke out among his slaves, Washington, who had experienced the disease while living in the Barbadoes, took personal charge of the work of cleaning up the slave quarters, reducing a condition of disorder to one of order. Washington was continuously vexed by the lazy, shiftless attitude of his blacks, he scolded his overseers for not obtaining more work from them. Washington's attitude toward slavery was no different from that of all the educated whites who lived in the colonies, and it might also be said that the wave of indignation and reform that later arose in the North against the "sin" of slavery was not too far removed from the dollar. The fact that slave labor was being used to build up industries and wealth in the South at the expense of the white North, bulked large in the minds of many reformers. Slavery was an offense that cried for amelioration but the world has suffered many similar abuses, all of which are taken up and cleared away in time.

Space prevents recounting a thousand items of interest relating to George Washington's experiences as a farmer. That this man, whose character was so exalted as to win for his name an immortality that few enjoy, saw in agriculture the one occupation that was most satisfying to his nature, does not seem strange. Washington had an inborn love of the soil, he began the task of satisfying this craving at a very early age, and all the greatness that came to him as a soldier who sought to defend his country against oppression, and the task of forming a new government which he was then called upon to head, were to him merely the duties of a citizen. In the years that he was compelled to remain away from Mount Vernon, whether leading his men in battle or discharging the duties of President, his mind and his heart inclined toward his home and his lands that fringed the broad and beautiful Potomac.

In 1799, on his birthday, Nelly Custis and Washington's nephew, Lawrence Lewis, were married. The bride asked him to wear his newest and most gorgeous uniform, but when he came down, he was dressed in his old Continental buff and blue. Age was overtaking our farmer-soldier-statesman, for his was a short-lived race. One day Colonel Meade, who had served on Washington's staff, was riding through the forest toward Mount Vernon. Meeting a boy who was hunting in the woods, the soldier asked the boy where he could find General Washington. The boy told Colonel Meade that the General was in his fields, saying, "You will meet, sir, with an old gentleman riding alone in plain drab clothes, a broad-brimmed white hat, a hickory switch in his hand, and carrying an umbrella with a long staff, which is attached to his saddle—bow—that person, sir, is General Washington." We can imagine the rest, the odor of freshly turned soil, the glint of the sun on his fields of corn and tobacco, the music of the birds and the voices of the black men, women, boys and girls, as they hoed their way across the fields. In the far south, the same picture can be seen in this day, and one who has not heard the yet primitive blacks of the far South, Louisiana and Mississippi, sing their way across the cane and cotton fields, has missed an indescribable melody. There is something that is gripping in their often wordless song, and as they swing their hoes or cane knives in unison with their soft, melodious chanting, one wonders if this plantation melody is not an heritage of the days when black men, chained to the decks of ocean galleys, pulled long, heavy oars in unison with their song.

Run of the Mine

What Cost Government?

THE day after the President delivered his annual message, he submitted to Congress a budget message forecasting a total recovery cost of ten billion dollars. The budget message was delivered in the President's usual smiling manner, the bon mots tossed by him to the 122,000,000 interested Americans including such items as:

> The expenditure by the government of over ten billions of dollars in 1934, and six billions in 1935.
>
> The government to borrow six billion dollars before June 30th next.
>
> The public debt to be raised from $22,538,672,560 as of June 30, 1932, to $31,834,000,000 as of June 30, 1935, an increase of $9,295,327,440, a sum extraordinary in magnitude.

The extraordinary financial program involves an expenditure by the Federal government of $31,179 every minute, day and night, from January 1 to July 1 next. It involves the most extensive borrowing ever attempted by this government, exceeding the rate of borrowing of 1917 and 1918, when the government was being mobilized for war and we were loaning large sums to European countries.

FIGURES FROM THE BUDGET MESSAGE
(As condensed by the United Press)

	Year ended June 30, 1933 (actual)	*Year ending June 30, 1934 (estimated)*	*Year ending June 30, 1935 (estimated)*
Expenditures	$5,142,953,627	$10,569,006,967	$5,960,798,700
Income	2,079,696,742	3,259,938,756	3,974,665,479
Deficit	3,063,256,884	7,309,068,211	1,986,133,221
Public debt	22,538,672,560	29,847,000,000	31,834,000,000

Expenditures for the fiscal year 1933 are divided as $3,865,915,458 general and $1,277,038,168 emergency; fiscal year 1934, $3,045,520,267 general and $7,523,486,700 emergency; 1935, $3,960,798,700 general and $2,000,000,000 emergency.

Mr. Charles Mertz, in a scholarly presentation of our Federal government expenditures, published in the New York Times, said in part:

"Much more important than ordinary costs are the emergency outlays involved in the govment's vast reconstruction program. The first item here is $1,227,000,000 for public works, representing that part of the total authorization of $3,300,000,000 which the administration now believes will actually be spent for wages and materials by June 30.

"There are also items of $400,000,000 for the Civil Works Administration, which provides temporary jobs for Winter relief, and of $342,000,000 for the Civilian Conservation Corps. A miscellaneous item of $418,000,000 includes allotments to the Farm Credit Administration and the Tennessee Valley Authority, as well as subscriptions by the government to the Federal land banks and the new deposit insurance fund. In addition, the President informed Congress that he would request at the present session further appropriations of $1,166,000,000 for other emergency purposes. It is expected that $400,000,000 of this will go toward continuing the Civil Works Administration after February 15.

"But by far the largest item among the emergency costs is an estimated expenditure of $3,970,000,000 by the Reconstruction Finance Corporation. This includes $823,000,000 already authorized for the purchase of preferred bank stock, large direct loans to banks and to railways, and advances required under existing law to the Land Bank Commissioner and other Federal agencies.

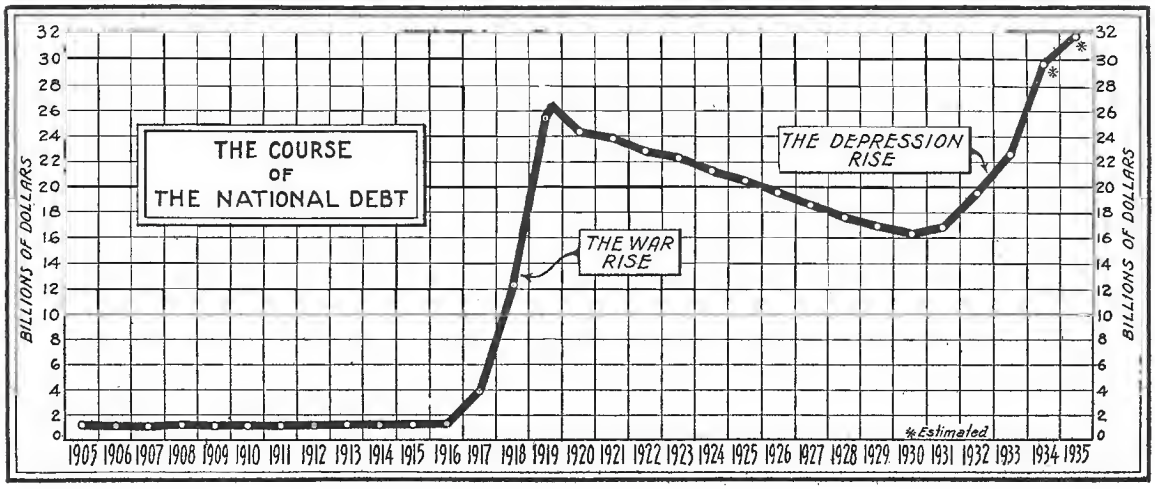
"The total of all emergency costs is $7,523,000,000. If this is added to ordinary costs of $3,046,000,000, the two sums yield a grand total of $10,569,000,000. This is the aggregate outlay of the Federal Government now estimated for the fiscal year which ends in June.

"What revenues are in sight with which to meet this enormous bill?

"There has been a substantial improvement during the past year in a number of the government's most important sources of revenue. This is not true of receipts from income taxes, which have continued to decline—chiefly in consequence of reduced earnings and profits on the part of taxpayers; to a lesser degree because of methods of evasion of the sort revealed by the Senate inquiry.

"Customs receipts, however, have increased from $251,000,000 last year to an estimated $399,000,000 for 1933-34, owing to the recent improvement of foreign trade. An entirely new source of revenue estimated at $403,000,000 has been provided by the processing tax on farm products under the AAA. Internal revenue has increased from $858,000,000 last year to an estimated $1,397,000,000—a gain of more than 60 per cent—because of the restoration of liquor taxes and the better yield of those imposed on various manufactured products.

"There remains one other type of revenue —that derived from miscellaneous sources, such as Panama Canal tolls, proceeds of government-owned securities, fines and penalties, passport fees and payments by European nations on their war debts. Here it is interesting



to note that for the first time on record the Treasury has failed to budget the full amount due from the debtor governments—as it has done regularly in the past, however unpromising may have been the outlook for full payment. The Treasury simply estimates receipts of $20,000,000, out of a total of $328,000,000, and adds in a footnote that if more is received so much the better.

"The total of all five sources of revenue listed here is $3,260,000,000. We have noted total expenditures of $10,569,000,000. The first figure subtracted from the second yields a deficit of $7,309,000,000.

"This is not only the largest peace-time deficit in the country's history. It is nearly three times the previous high mark of $2,473,000,000 in 1932, more than five times the deficit last year and more than eighty times any deficit between 1870 and the World War."

Never in the history of any government is so small a return being received by the taxpayer for his dollar. Millions are being poured into banks, many of which were criminally mismanaged for years, other millions are being paid out for so-called relief projects, such as the Civilian Conservation Corps and the Civil Works Administration, the character of work done by these organizations in a large part superficial, with every evidence of the little work done disappearing in two or three years. Little if any attempt is being made to confine these so-called relief expenditures to those who are needy. On the other hand, a host of ne'er-do-wells have come up out of their anonymous life to stand by the roadside, five or more hours out of six each day, the "workers" receiving a rate of pay that they did not earn in the boom days of 1928, and which is too often above the wage prescribed in many of the N. R. A. codes. In addition, thousands of boys whose parents are amply able to care for them, are on public work, every so-called job flanked with a battery of automobiles in which the "down and out" ride to and from their work.

Who is to ultimately pay the bills? The President's admirers admit frankly that the New Deal entails "taking from those who have and giving to those who have not." This class of economists are shutting their eyes to the fact that it is the accumulated savings of the thrifty that make a nation prosperous, and that when the liquid wealth of the country is tied up in government, interest bearing bonds, industry will lag and employment will cease. This orgy of spending the nation's wealth cannot go on forever; just at present we are engaged in the fabled enterprise of skinning cats. That adventure it will be recalled supposed setting aside an island favorable to the culture of rats. The cats were to eat the rats, and after the cats were skinned, their remains were to be fed to the rats, and so on ad infinitum. The skinners get the furs. However, it is well to be of good faith, but "what price government" is after all an important question.

The 1934 Automobile

ONE has but to look at the cuts of the 1934 model automobiles to note the sweeping changes in design, and a closer examination will disclose most extraordinary changes in mechanical construction. Doubtless many of the changes made were advanced for selling purposes, and as in the past, certain new kinks installed may prove too delicate and complex to maintain. As a matter of fact, the great majority of drivers do not know much about the niceties that make the machine go, and that many millions do get along with the mere capacity to step on the starter, steer the car, and use the brakes, constitutes a remarkable testimonial for the fool-proof construction used by automobile makers.

Any normal person who will attempt to read the claims of the automobile makers for their 1934 models will become bogged in a maze of complex terms, such as, "higher charging rates, higher compressions, increased displacement, valve inserts, automatic clutches, helical gears, independent front wheel suspension, knee action," and so on into the night. Stream-line bodies, more powerful engines, with more rapid acceleration, and higher and higher speed, are the more stubbornly contended claims made. The question of speed is not, however, dependent on the size of the engine or the contour of the body; the width, straightness, and character of the roadway will always be the determining factor, as for example, on our recent icy streets we observed that the 1934 model was quite as much given to spinning as the old Model T Ford. That the nation is doing a fairly good job of murdering people with the truck and automobile is evidenced by the following figures:

Year	*Number Killed*
1928	27,996
1929	31,215
1930	32,929
1931	33,675
1932	29,500
1933	30,000

The falling off in fatalities in 1932 and 1933 from the high figure of 1931 was due to the decreased number of machines in operation, about one million less machines registered in 1933 than in 1932.

The automobile industry deserves an honored place in the annals of American industry. In no

other direction has the chemist with his special alloyed metals, and the designing engineer, with his almost uncanny skill, accomplished so much. The product of the automobile manufacturers bulks heavily in the nation's economics, which the following tabulation will show:

Production, Value, Registration

Cars and trucks produced in United States and Canada, 1933	2,048,000
Passenger cars	1,685,000
Motor trucks	363,000
Production, percentage increase over 1932	43%
Wholesale value of cars	$795,200,000
Wholesale value of trucks	$175,000,000
Average factory price of cars	$630
Average factory price of trucks	$645
Wholesale value of parts and accessories for replacements, and service equipment	$425,728,000
Motor vehicles, accessories, service equipment and replacements of parts and tires	$1,655,928,000
Gasoline consumption by motor vehicles, retail value, including taxes	$2,227,000,000
Motor vehicles registered in U. S.	23,720,000
Motor cars	20,525,000
Motor trucks	3,195,000
World registration of motor vehicles	32,820,000
Per cent of world's automobiles in United States	72%
Miles of surfaced highways	920,000
Total miles of highways in U. S.	3,040,000
Highway and street expenditures, 1933	$1,550,000,000

The taxes paid on motor vehicles in 1933 are computed at $1,170,000,000; on gasoline, $716,000,000. The motor vehicle consumes a substantial portion of the nation's raw material, besides importing rubber in large quantities, as witness the following statement:

Automobile and Other Business

Automotive industry is the largest purchaser of gasoline, rubber, alloy steel and malleable iron, mohair, upholstery leather, lubricating oil, plate glass, nickel and lead.	
Number of carloads of automotive freight shipped over railroads in 1933	2,621,000
Rubber used by automobile industry	80%
Plate glass used by automobile industry	38%
Steel and iron used by automobile industry	15%
Lumber, hardwood, used by automobile industry	14%
Copper used by automobile industry	11%
Lead used by automobile industry	10%
Aluminum used by automobile industry	25%
Nickel used by automobile industry	28%
Gasoline consumption by motor industry	85%
Gasoline used by motor vehicles (bbls. of 42 gals.)	320,000,000
Lubricants used by motor vehicles (bbls. of 42 gals.)	9,500,000
Lubricants, per cent used by motor vehicles	59%
Crude rubber used by motor industry, 1933 (lbs.)	716,800,000
Cotton fabric used in tires, 1933 (lbs.)	185,000,000

Speed and more speed, beauty and more beauty, expenditure without end, with death too often beckoning at the crossing and the curve; such is the tempo of the twentieth century;

"We dance along death's icy brink,
Is the dance less full of fun?"

The Inn by the Side of the Road

THE government is at present indulging in a good many experiments, many of which are without doubt useful and necessary. There is one, however, which we question. We refer to the establishment of shelter places where baths, sanitation, food and beds, are to be made available for that certain portion of our population which insists on continuously moving from one place to another. Anyone who has taken the trouble to question any of our numerous peripatetic citizenry, who ask for food or rides, quickly learns that they are more concerned in going "anywhere" rather than "somewhere." For example, we recently met a youth who said he was going to Baton Rouge, Louisiana, to work on a "proposed" bridge across the Mississippi River; he however was headed west via the Lincoln Highway, evidently bent on ignoring two "proposed" bridges that certain promoters have been building (in the newspapers) over the Missouri River at Omaha.

Speaking of the Lincoln Highway recalls a letter that Abraham Lincoln wrote in 1851 to his stepmother's son, John D. Johnson. The letter reads:

"Dear Brother:

"When I came to Charleston day before yesterday, I learned that you are anxious to sell the land where you live and move to Missouri. I have been thinking of this ever since, and cannot but think such a notion is utterly foolish.

"What can you do in Missouri better than here? Is the land any richer? Can you there, any more than here, raise corn and wheat and

oats without work? Will anybody there, any more than here, do your work for you?

"If you intend to go to work, there is no better place than right where you are; if you do not intend to go to work, you cannot get along anywhere. Squirming and crawling about from place to place can do no good. You have raised no corn this year; and what you really want is to sell the land, get the money, and spend it. Part with the land you have, and, my life upon it, you will never after own a spot big enough to bury you in. Half you will get for the land you will spend in moving to Missouri, and the other half you will eat, drink, and wear out, and no foot of land will be bought.

"Now, do not misunderstand this letter; I do not write it in any unkindness. I write it in order, if possible, to get you to face the truth, which truth is, you are destitute, because you have idled away all your time. Your thousand pretenses for not getting along better are all nonsense; they deceive nobody but yourself. Go to work is the only cure for your case."

Coal Production, 1933

ADVANCE figures submitted by the United States Bureau of Mines fix the estimated production of bituminous coal in 1933 at 327,940,000 tons, as compared with 309,709,872 tons in 1932, an increase of 18,230,128 tons, or 5.9 per cent.

Anthracite production in Pennsylvania for the year 1933 is estimated at 49,399,000 tons as compared with 49,855,000 tons in 1932, a decrease of 456,000 tons, or a fraction less than 1 per cent.

The increased production of bituminous coal in 1933 occurred in the months May to September, inclusive. From October to December, inclusive, the production line wavered above and below that of 1932. A further improvement is anticipated for 1934, but it is doubtful if the high point of production, 579,385,820 tons for 1919, or that of 1929, with 534,988,593 tons, will be reached again in this generation.

A Coal Mine That Dates Back to the Thirteenth Century

IN YORKSHIRE, England, the Nostell Colliery, Ltd., is operating a coal mining property that began to produce coal in the thirteenth century, some seven hundred years ago. Since the year 1660, the estate and colliery have been under the control of the same family. This mine employs five hundred men whose ancestors for centuries found work in the mines of this company, which doubtless is the oldest continuous coal operation in the world.

Kansas Coal Mines in the Old Days

WE OFTEN hark back to the coal mines of Kansas as our first coal mining experience. "Bob" Gray, then General Superintendent of the J. R. Crowe Coal and Mining Company, was our guide, instructor, and friend. Robert Gray came out from Scotland as a youth, knocked about awhile as many young fellows yet do, even confessing to playing a cornet in a traveling band, to at last take up coal mining as a life vocation. Not content to drift along, Bob substituted a correspondence course in mining engineering for a college education, becoming a good mine surveyor, shaft sinker and designer of mine tipples, and a crack manager.

Some wit once said that if one wished to make a success of a job, then be sure to pick out a good predecessor. We flatter ourselves that we knew a good teacher when we picked "Bob" Gray, and we hold no happier memories than those of crawling through the thin coal seams of Southeastern Kansas, Arkansas and Oklahoma, with this friend, now retired. Those were the days of oil lamps and as we crawled along with Bob, who guarded his dwarf transit as a mother would a child, we imbibed the mysteries of fore sights, back sights, and vertical as well as horizontal angles. Plumbing the shaft to carry the surface lines below ground was always a rather sacrosanct task, perhaps that was why Sunday morning was always chosen for this performance, one which almost assumed the proportions of a rite.

The deeper shafts in Southeastern Kansas made a little gas in the old days, and the tenderfoot was frequently edified by the trip driver lighting the accumulation that hung in the cave holes in the roof of the entry. Ventilation was also a secondary question in the Kansas field, that is below ground, thirty years ago. Like Wyoming, there was plenty of air stirring up on the prairie level. Many of the mines were driven on the single entry plan with rooms turned off on both sides, the air coursed through the rooms on one side toward the face, returning through those on the opposite side. As a result, the haulageway, which served as a travel way, enjoyed very little air movement, hence the accumulations of gas in the roof holes.

Reading from the last report of the State Mine Inspector of Kansas, we note the following data on the coal seams:

County	*Mining Method*	*Thickness Seam*	*Overburden*
Crawford	Stripping	22 in.	Avg. 16 ft.
Crawford	Shafts	34 in.	Avg. 82 ft.
Cherokee	Stripping	31 in.	Avg. 15 ft.
Cherokee	Shafts	42 in.	Avg. 46 ft.
Leavenworth	Shafts	22 in.	Avg. 720 ft.

There are four additional counties producing a small tonnage, but the conditions above outlined are representative of the coal seams in Kansas, and also in much of Arkansas and Oklahoma.

In the old days, shotfiring with a hard coal, shot off the solid, a couple of sticks of dynamite parked in the bottom of each hole, black powder and dry coal dust, the last ostensibly for tamping, was the order of the day, or rather the early night. Double and triple pay was allowed the shot firers, who, young, active and reckless, lit the shots as fast as they could get in and out of the rooms, then usually driven in 150 feet. With shooting of this character and sluggish ventilation, it was only necessary to let enough carbon monoxide accumulate to allow the proper "mix" for an explosion to occur, and the local graveyard to receive from one to four additions. It was commonly remarked that many of the graves in the mining district cemeteries were fifty-fifty, one-half shotfirers, one-half all others.

Another enterprise that was indulged in thirty years ago was that of "brushing" the gas out of the working places in the morning, just before the miners went in. The gasman making his examination, marked off the places that showed gas and just before the worker entered his room, the gasman went in, fanning the gas out with his blouse, taken off for this purpose. We recall hearing an operator's young wife once ask why the company did not give the gasmen palm-leaf fans for this purpose. The young woman had a sense of the aesthetic that the shotfirers lacked, but the palm-leaf fan would have stirred up the air quite as well as some of the fans did, contending as they had to with endless cloth bratticing that the shooting soon made as ragged as Barbara Frietchie's famous flag. When three or four well dynamited shots went off together, the coal moved frequently littered the room floor for fifty or more feet from the face, tearing and gashing the crosscut brattices.

It was perhaps in the Kansas coal field that the technique of stopping to tell a story, an accomplishment that Col. William Redshaw of Rock Springs, yet resorts to in high coal, was first developed. When a party ducked along under the low entry roof or crawled in and out of a few unbrushed rooms, a story with its accompanying pause was a gift. We recall taking two members of the Kansas Public Utility Commission through the Kansas coal fields at one time. The Chairman, whose stomach dimensions were passing large, and another member who had previously served the nation as U. S. Senator and as Postmaster-General, both expressed a desire to see how coal was mined. When the room neck, thirty-six inches high, was approached, the fat Chairman asked how he could best get in. The foreman, a witty Irishman, suggested rolling in, which the Chairman actually attempted. Later the foreman told the story of the fat miner who, on rolling in to go to work, found himself with his back to the face, compelled to roll out for another start.

Kansas has fallen from her past high place as a producer of coal, the tons mined in 1917, the year of greatest output, 7,561,947, the output in 1932 but 1,952,885 tons, a shrinkage of 74 per cent. We hope that "Bob" Gray will forgive our reminiscing of the old days in Kansas, but as we glanced over the State Inspector's report old memories arose, of which a kindly mining man, a warm friend, and a splendid type of gentleman held center place.

Our Community Councils

ELSEWHERE in this issue of The Employes' Magazine will be found detailed statements of receipts and expenditures of the several Community Councils for the year 1933.

A consolidated analysis of the statements shows a total of expenditures for the various general purposes to be as follows:

	Amount	*Per Cent*
For entertainment purposes...	$ 852.30	28.0
Christmas entertainment, gifts, etc.	621.48	20.4
Community welfare projects..	553.65	18.2
Equipment and supplies purchased	475.03	15.6
Welfare and relief.....	402.79	13.2
Boy and Girl Scouts.....	99.27	3.3
Miscellaneous	40.78	1.3
Total.....	$3,045.30	100.0

The total expenditures for the year exceeded total receipts by $445.96, leaving a total balance on hand January 1, 1934, of $1,386.64, as compared with $1,832.60 on January 1, 1933. By comparing the individual community expenditures with the total of all councils, the local officers can more readily plot their course for 1934. If we were to make a suggestion, it would be to the effect that the Boy and Girl Scout movement be more liberally assisted, and certain children who cannot join in Scout activities be given this chance.

A JUST COMPLAINT

A man was complaining of the lack of warmth in the boarding house in which he was staying.

"In the daytime it is bad enough," he said, "but at night I frequently wake up and hear my teeth chattering on the dressing table."

Total Car Loadings by the Railroads

THE total car loadings by the American railroads for the year 1933 increased 780,958 cars, or 2.7 per cent, over the loadings for 1932. Ore, coal, coke, forest products, and miscellaneous shipments made up for the losses sustained by merchandise in less than car lot loading, which went to the trucks, the shipments for the two years shown below:

Total car loadings by commodities in 1933 are compared with those in 1932 in the following table:

	1933	1932
Grain and Grain Products	1,654,405	1,653,381
Live Stock	886,141	949,287
Coal	5,615,935	5,338,938
Coke	295,544	223,766
Forest Products	1,085,592	899,198
Ore	700,286	210,367
Merchandise L. C. L. Freight	8,428,384	9,069,736
Miscellaneous	10,294,623	9,835,279
Total	28,960,910	28,179,952

What Do the Railroads Earn and How Do They Spend Their Revenue?

THE railroads of the nation serve the whole people and broadly speaking, service must be paid for. When a shipper wishes to send a carload of live stock, produce or grain to market, he orders an empty car and thereafter expects to have it moved promptly and safely. If business, sickness, death or even pleasure demands that he cross the country, he expects a seat or a Pullman berth and very properly, he expects to be carried to his destination safely and promptly. That the weather may be 20 degrees below zero, the highways icy and slippery, and that fog or blizzards have tied up the airplane service makes no difference to the prospective passenger, if he wants to go. For this service that must be kept ready for use, there must be a "demand" or capital investment charge to which must be added the cost of the service proper. The figures that follow, taken from the last available Interstate Commerce Commission reports (the year 1932) show graphically what the railroads as a whole earned in 1932 and what they did with their revenue:

I OPERATING RECEIPTS

For Freight transportation.....$2,450,829,130
28,194,828 carloads of freight, each car averaging 24.9 tons.
Average receipts per ton-mile: 1.05 cents.

For Passenger transportation..... 377,095,346
478,800,122 passengers, each carried an average distance of 35.4 miles.
Average receipts per passenger-mile: 2.22 cents.

For Express transportation..... 53,983,056
106,980,624 shipments carried in passenger service.

For Mail transportation..... 97,161,716

For All Other transportation services 147,690,906
Including ferry service, transportation of milk, etc., dining-car, and all other incidental transportation services.

Total Transportation Operating Receipts.....$3,126,760,154

II EXPENSES

Total Receipts to be accounted for..$3,126,760,154

For Salaries and Wages..... 1,436,842,343
An average of 1,031,703 employes throughout the year. These employes also received additional wages of $75,973,804 charged to improvement to property. Railway employes received an average of $1,466 in wages during the year.

For Locomotive Fuel..... 168,601,492
66,825,316 tons of coal and 1,759,123,835 gallons of fuel oil.

For Other Materials and Supplies.. 539,051,234
Purchases under this and other heads make the railroads one of the largest customers of the basic industries of the country.

For Loss and Damage, Injuries and Insurance..... 50,865,821
Loss and damage freight claims alone amounted to $119,833,127 in 1920, but were reduced to $17,303,233 in 1932.

For Depreciation and Retirements. 209,111,423
Cars and locomotives have a limited life. A charge representing the probable depreciation is made each year against the time when old equipment must be retired and replaced by new.

For Rent of Cars and Common Facilities..... 120,408,315
Net charges. Such as Union Stations, yards, etc.

Total Expense to Keep Property Physically Going.....$2,524,880,628

For Taxes..... 275,135,399
Railway taxes paid federal, state, and local authorities, not including special assessments. Of the total railway tax approximately 45.8 per cent was applied to the support of schools and 13.9 per

cent for construction and maintenance of highways.

Total Operating Expenses and Taxes. $2,800,016,027

Balance of Receipts to be accounted for $326,744,127

III FIXED CHARGES

Balance of Receipts still to be accounted for $326,744,127

For Rent of Leased Roads..... 91,747,258

Most large railroad systems have one or more parts which could not be bought outright, but for which rental is paid under a lease covering a long term of years. The payment of these rentals is necessary to keep those systems unified operating organizations. The amount shown is the net payment after eliminating certain offsetting credits.

For Amortization of Discount on Funded Debt 3,449,481

For Interest on Borrowed Money.... 524,234,778

Paid to more than 1,000,000 persons owning bonds representing investment in track, stations, yards, shops, etc.; and equipment trust certificates representing investment in cars and locomotives.

Total Fixed Charges..... $619,431,517

IV BALANCE

Balance—Operating Receipts *deficit* for the year..... $292,687,390

Net Miscellaneous Income..... 153,483,569

Mainly income from securities owned and miscellaneous rents. This item represents *net* income after excluding inter-company transactions.

Net corporate *deficit* for the year.. $139,203,821

V DIVIDENDS

Cash Dividends on Railroad Stock... 92,354,322

An average return of slightly more than 1 per cent on the total railroad stock outstanding — securities representing nearly half of the invested capital of the railroads owned by 909,326 stockholders,

Some railroads own stock of other railroads, and to this extent the total of $92,354,322 includes duplications represented by inter-company transactions.

Some railroads had no income from operations available to meet the year's cash dividends. These dividends were paid in part from earnings of prior years.

Total Balance *(a deficit)*..... $231,558,143

Leaving nothing available for investment in new railroad facilities—or for making up deficiencies incurred in previous years—or to help create reserves against bad years in the future.

The one and three-quarter billion gallons of fuel oil burned by the railroads would equal 11,966,828 tons of coal, and sooner or later that tonnage will come back to the coal mines. It is interesting to know that 45.8 per cent of railroad taxes go to schools, and 13.9 per cent to highways. The figures, if read carefully, should prove informative to many who think the sole job of the railroads is to block "C" Street Crossing at Rock Springs.

The Coal Code

THAT some progress has been made by the coal industry under the N. R. A. will not be disputed. That more real progress has not been made is due to:

(a) The failure of the coal operators in many sections to take hold of and help perfect the coal code when it was in the making. Those who were most vocal in their objections, particularly to dealing with the U. M. W. A., are now loudest in their praises of the alliance. These are the men who now seize on every opportunity to praise Mr. Lewis and his union. Their conduct recalls the Mayor of Jerusalem who surrendered the city to the British forces five times, and then died from pneumonia induced by overexposure, or as a waggish writer said, "oversurrender."

(b) The inherent desire of certain operators to continue the old competitive practices that wrecked both industry and labor. This situation is expressed in the published price lists that carry, not a price based on cost plus a nominal profit, but a different price for a dozen or more localities. To charge one consumer a plus of as much as $1.25 per ton for the same grade of coal over another user does not look defensible.

(c) The U. M. W. A. has not interested itself in the low wages paid in the small mines, this low wage and low price competition most demoralizing. Among the larger properties the old fight for office and spoils goes on (not merrily, however), this activity taking the form of competing unions who are now so numerous as to rival the list of N. R. A. alphabetical activities.

(d) The N. R. A. authorities at Washington lack the punch or else the desire to get things

done. In the various meetings with the operators, action drags, no one seems to enforce the purposes for which the meetings are called, with the result that men cross the country to attend meetings at great expense, going home without anything tangible to report. These meetings usually open with a speech by Mr. Richberg, Mr. Simpson, or some other code authority, and thereafter the proceedings are resolved into something like a bridge or tea party. Lots said, little meant, and less done.

On February 12, if a second postponement does not occur, operators, mine workers, and code authorities will meet in Washington to review the whole code, including wages, hours of work, prices, etc. At this meeting, Forms "A," "B," "C" and "D," put out by the N. R. A. and which cost the government and the industry many thousands of dollars, are expected to provide information upon which stable conclusions can be reached. We hope such will prove to be the case. If we were to venture a suggestion to the industry and the N. R. A., it would be to say that it is now time to put the code in enforceable working order. If this is not done and strikes and suspensions appear April 1, then what labor and the industry have gained will be lost in a sea of chaos. Just a trifle more vision and the willingness to pull together would work wonders. The men at Washington are not "big, bad wolves"—they really want to help the industry.

The railroad industry is just now receiving the attention of a railroad co-ordinator, Mr. Joseph B. Eastman. In a recent report, Mr. Eastman made a statement relative to the railroads that is equally applicable to the coal industry:

> "When an industry becomes so public in character that such intimate regulation of its affairs becomes necessary, in strict logic it would seem that it should cease to masquerade as a private industry and the government should assume complete responsibility, financial and otherwise."

We have no hesitancy in predicting that if the Coal Code fails, Congress will pass coal regulatory laws that will make the hardships of the present Coal Code look like a Sunday School picnic. A nation's fuel supply is quite as important as its transportation—without fuel coal and oil, transportation would cease.

He had just opened a letter from his sister which read: "I received the lovely washing machine you sent and certainly enjoy washing by electricity. Probably I shouldn't find fault, but there is one thing wrong. Whenever I stand up in it, the paddles knock me down!"

Birth of the Rose

By MR. D. G. THOMAS

I found a red rose in my garden today,
'Twas born in the night when the stars were away;
When darkness was wandering over the earth,
The dew was attending the rose at her birth.

The sun in its glory blazed over the lawn,
The birds and the dew soon awoke and were gone;
The rose all alone, like a pearl in the sea,
Smiled sweetly and nodded "good morning" to me.

I said to the rose you are lovely and fair,
A precious sweet gem for my love's raven hair;
To her you'll be welcome and happy and free,
She smiled and she nodded a "thank you" to me.

So take, little sweetheart, this red rose of mine,
A token of love for my idol divine;
She was kissed by the sun and mellowed with dew,
And now gives her beauty and fragrance to you.

O. B. E. Decoration

William Gilbertson was, on January 1st last, awarded the Medal of the Order of the British Empire. This honor was bestowed upon him by King George V. It will be remembered that Gilbertson was the Engineer on the memorable trip of the Royal Scot train of the L. M. & S. Ry. to the Century of Progress Exposition, at Chicago, and the transcontinental journey thence to Los Angeles, San Francisco, Seattle, Vancouver and back to Montreal, where the train was dismantled and shipped back to England via steamship.

Hydrogenation in Germany

Mr. E. Brown, Seqretary, British Bureau of Mines, advises that during the year just ended, the production at Leuna has been between 100,000 to 120,000 tons of petrol, 25,000 tons obtained directly from brown coal and the balance from crude petroleum, tar, etc. This data given out on the authority of I. G. Farben industries to the Imperial Chemical Industries, the experience of the latter is that bituminous coal is technically a better raw material than the brown coal and the I. G. people join them in the statement that bituminous coals are as satisfactory as the brown coals they are using, and which they hope to make their major raw material.

KNEW HER ONIONS

"Can you serve company?" asked the housewife when she was hiring the servant.

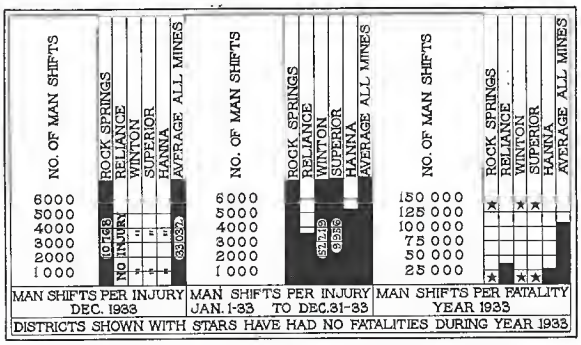
"Yes, mum, both ways."

"What do you mean?" asked the puzzled one.

"So's they'll come again, or stay away."

» » » Make It Safe « « «

December Accident Graph



IN THIS issue of the magazine the safety department attempts to give a resume of the safety record for the year 1933. There have been ups and downs during the past year, yet there was an increase in manshifts per injury over 1932 amounting to 39.34% for all districts.

While an increasc is shown in manshifts per injury for 1933, the fatality rate increased from one in 1932 to three in 1933, there being one fatal injury in the Reliance District and two in the Hanna District. These fatal injuries marred an otherwise excellent safety record.

Some of the districts and mines did exceptionally good safety work during the past 12 months, namely, Winton as a district worked 52,219 manshifts with but one serious injury; whereas in 1932 this district trailed all others with 4,030 manshifts per injury. The mine management and employes at Winton are to be congratulated for the splendid spirit of co-operation they have exhibited throughout the year in achieving their nearly perfect record.

Rock Springs as a district should come in for some applause because their safety record is good. In the first place, the year 1933, has been the first year since 1925 that this district has gone a calendar year without having from one to four fatal injuries. The Rock Springs district stands third with 7,529 manshifts per injury, yet as a whole, they have done very well, and all concerned are to be congratulated.

The Superior district held its ground admirably throughout the year, in fact they were able to raise their manshifts per injury from 9,216 in 1932 to 9,956 in 1933, thus placing them second in this classification.

The two districts that lost ground during the year when compared with their records made in the preceding year are Reliance and Hanna. Reliance dropped from 7,292 manshifts per injury to 3,574 and Hanna from 5,894, to 5,240 manshifts per injury.

When a comparison of 1933 accident statistics is made with the previous 5 year period 1928 to 1932 inclusive, all districts show a remarkable percentage of increase in manshifts per injury. They are as follows:

Winton	2,382 Per Cent
Superior	383 Per Cent
Rock Springs	287 Per Cent
Hanna	113 Per Cent
Reliance	88 Per Cent

This is progress.

Two mines, Superior "B" and Winton No. 1, operated the entire year without a single lost time accident. The last accident at "B" Mine occurred on January 8, 1932, and at Winton No. 1 on September 13, 1932.

Other mines making exceptionally good records for the year are Superior "E" with 3 serious injuries, Rock Springs No. 4 with 4, each having 7,510 and 7,499 manshifts per injury respectively.

The outside sections, Rock Springs, with 17,967; Superior with 15,091 and Winton with 10,624 manshifts, operated the entire year without a lost time injury. This again is a remarkable safety record and we wish to thank all of the surface foremen and employes at the above districts who made this record possible.

From the above, our readers may think that we are crowing about our safety record. Far from it, our record is not that good as yet, but we do want to impress every one of our employes with the fact that the safety movement is growing and that each and every one is an important cog in the wheel of this worth while endeavor, remembering, of course, that when you stop working safely, your safety program stops also.

The growth of the present safety record has been

DECEMBER INJURY

Name	*Nature of Injury*	*Cause of Injury*	*Period of Disability*	*District*	*Mine*	*Section*
John Skubic	Fracture of small rt. toe	Boney rolled off pile and struck foot	Est. 4 weeks	Rock Springs	No. 4	2

slow, and may be compared to the growth of a tree. The yearly accretions may not be noticeable, but the roots are ever sinking deeper and the branches are ever spreading wider and reaching higher.

We are encouraged, therefore, by the indisputable evidence of the past two and one-half years performance that accidents can be stopped. We as a unit have not reached that goal of no lost time accidents for a year, but, keep this fact in mind, that the greatest per cent of all accidents is traceable to unthinking individuals.

So for 1934 keep that fact before you, whatever you are doing, concentrate on the job. Suspect danger in everything, and don't start any kind of a job until you have weighed the possibilities of existing danger. Let's reduce the accidents in this organization. If you have no resolution to live up to this year, resolve to practice SAFETY FIRST, LAST AND ALWAYS.

COMPENSABLE INJURIES AND MANSHIFTS WORKED BY MINES

The statement for December, 1933, for the calendar year, 1933, and the two statements for the five-year period 1928 to 1932, inclusive, following, are based on compensable injuries, that is to say, injuries which come under the provisions of the Workmen's Compensation Law, and which do not bear directly on the records of lost time accidents maintained for the purpose of the safety award contest.

DECEMBER, 1933

Place	*Manshifts*	*Injuries*	*Manshifts Per Injury*
Rock Springs No. 4..	3,354	1	3,354
Rock Springs No. 8..	5,711	0	No Injury
Rock Springs Outside	1,703	0	No Injury
Reliance No. 1.....	2,662	0	No Injury
Reliance Outside ...	932	0	No Injury
Winton No. 1.....	4,603	0	No Injury
Winton Outside	1,067	0	No Injury
Superior "B".....	2,330	0	No Injury
Superior "C".....	2,286	0	No Injury
Superior "D".....	30	0	No Injury
Superior "E".....	2,378	0	No Injury
Superior Outside ...	1,418	0	No Injury
Hanna No. 2.....	565	0	No Injury
Hanna No. 4.....	2,299	0	No Injury
Hanna Outside	1,694	0	No Injury

PERIOD JANUARY 1 TO DECEMBER 31, 1933

Rock Springs No. 4..29,996	4	7,499
Rock Springs No. 8..49,916	9	5,546
Rock Springs Outside 17,967	0	No Injury
Reliance No. 1.....26,126	8	3,266
Reliance Outside.... 9,611	2	4,806
Winton No. 1.....41,595	1	41,595
Winton Outside.....10,624	0	No Injury

(Continued on page 66)

Statement of Compensable Injuries, Year 1933 Compared with Previous Five Year Period, 1928 to 1932, Inc.

	FIVE YEAR PERIOD					1933 PERIOD					INC. OR DEC. 1933 OVER 5 YEAR PERIOD		
	Manshifts	*Injuries Including Fatal*	*Manshifts Per Injury*	*Fatalities*	*Manshifts Per Fatality*	*Manshifts*	*Injuries Including Fatal*	*Manshifts Per Injury*	*Fatalities*	*Manshifts Per Fatality*	*Increase Manshifts Per Injury*	*Increase and Decrease Manshifts Per Fatality*	*Per Cent Increase Manshifts Per Injury*
Rock Springs	666,102	342	1,947	10[x]	74,011	97,879	13	7,529	0	No Fatal	5,582	No Fatal	287
Reliance	253,183	133	1,904	2	126,592	35,737	10	3,574	1	35,737	1,670	—90,855	88
Winton	328,245	156	2,104	5	65,649	52,219	1	52,219	0	No Fatal	50,115	No Fatal	2,382
Superior	517,486	251	2,062	7	73,927	79,654	8	9,956	0	No Fatal	7,894	No Fatal	383
Hanna	334,762	136	2,462	8	41,845	52,399	10	5,240	2	26,200	2,778	—15,645	113
TOTAL	2,099,778	1,018	2,063	32[x]	67,735[x]	317,888	42	7,569	3	105,963	5,506	+38,228	267

[x]Fatalities based on 9 at Rock Springs and Total of 31, due to manshifts not included for shaft sinking during period 1930-31.

Statement Showing
Manshifts, Compensable Injuries, Manshifts Per Injury Fatalities and Manshifts Per Fatality
Years 1928 to 1933, Inclusive

	1928	*1929*	*1930*	*1931*	*1932*	*1933*
ROCK SPRINGS:						
Manshifts	143,271	157,094	148,382	122,182	95,173	97,879
Injuries	79	87	105	48	23	13
Manshifts Per Injury	1,814	1,806	1,413	2,545	4,138	7,529
Fatalities	1	3	1	4	1	0
Manshifts Per Fatality	143,271	52,365	148,382	40,727**	95,173	No Fatality
RELIANCE:						
Manshifts	52,850	61,393	56,804	45,678	36,458	35,737
Injuries	28	42	35	23	5	10
Manshifts Per Injury	1,888	1,462	1,623	1,986	7,292	3,574
Fatalities	0	1	1	0	0	1
Manshifts Per Fatality	.....	61,393	56,804	.....	.....	35,737
WINTON:						
Manshifts	67,202	72,677	72,385	63,595	52,386	52,219
Injuries	38	31	37	37	13	1
Manshifts Per Injury	1,768	2,344	1,956	1,719	4,030	52,219
Fatalities	2	1	1	1	0	0
Manshifts Per Fatality	33,601	72,677	72,385	63,595	.....	No Fatality
SUPERIOR:						
Manshifts	97,844	113,114	120,955	102,631	82,942	79,654
Injuries	85	59	67	31	9	8
Manshifts Per Injury	1,151	1,917	1,805	3,311	9,216	9,956
Fatalities	2	2	2	1	0	0
Manshifts Per Fatality	48,922	56,557	60,478	102,631	.....	No Fatality
HANNA:						
Manshifts	72,013	71,088	70,606	62,112	58,943	52,399
Injuries	39	31	38	18	10	10
Manshifts Per Injury	1,846	2,293	1,858	3,451	5,894	5,240
Fatalities	2	4	2	0	0	2
Manshifts Per Fatality	36,006	17,772	35,303	.....	.....	2,620
*ALL DISTRICTS:						
Manshifts	433,180	475,366	469,132	396,198	325,902	317,888
Injuries	269	250	282	157	60	42
Manshifts Per Injury	1,610	1,901	1,663	2,524	5,432	7,569
Fatalities	7	11	7	6	1	3
Manshifts Per Fatality	61,833	43,215	67,019	79,240x	325,902	105,963

*—Excluding Cumberland.

**—Based on 3 fatalities—4th man killed in new air shaft and no manshifts worked in shaft were included in above manshifts.

x—Based on 5 fatalities for same reason as "Manshifts per Fatality" in Rock Springs above.

(Continued from page 64)

Superior "B"	21,174	0	No Injury
Superior "C"	20,859	5	4,172
Superior "D"	395	0	No Injury
Superior "E"	22,530	3	7,510
Superior Outside	14,696	0	No Injury
Hanna No. 2	7,945	2	3,973
Hanna No. 4	24,407	6	4,068
Hanna No. 6[x]	407	0	No Injury
Hanna Outside	19,640	2	9,820

xNo. 6 Mine closed down in March, 1933.

COMPENSABLE INJURIES AND MANSHIFTS BY DISTRICTS

DECEMBER, 1933

Place	*Manshifts*	*Injuries*	*Manshifts Per Injury*
Rock Springs	10,768	1	10,768
Reliance	3,594	0	No Injury
Winton	5,670	0	No Injury
Superior	8,442	0	No Injury
Hanna	4,558	0	No Injury
All Districts	33,032	1	33,032
All Districts, 1932	27,742	1	27,742

PERIOD JANUARY 1 TO DECEMBER 31, 1933

Place	*Manshifts*	*Injuries*	*Manshifts Per Injury*
Rock Springs	97,879	13	7,529
Reliance	35,737	10	3,574
Winton	52,219	1	52,219
Superior	79,654	8	9,956
Hanna	52,399	10	5,240
All Districts	317,888	42	7,569
All Districts, 1932	325,902	60	5,432

Safety is Beginning to be a Habit

Since starting the present system of safety awards, several of the unit foremen and their sections have gone the entire period of 2½ years without a lost time injury. Others have gone 2 years, and, in another section of the magazine, will be seen the 21 unit foremen and their sections that completed the year 1933 without a lost time injury. All have done their share in contributing their untiring efforts for better safety.

A Correction

In the December, 1933, issue of the Employes' Magazine, under "October Injuries" a brief account was given of the injury to Adam Hordzevich, which read thus:

"Adam and his partner, James Henderson, Machine Runner, had cut across the face of 16-foot scraper way room on about a 14 degree pitch. In pulling the machine out from under the cut, Adam stepped into the cutter chain, which was in operation. Only the quick action and presence of mind of James in releasing the bit clutch and shutting off the controller kept Adam from being much more severely injured or possibly killed."

Part of the above is an error and should read as follows:

"In pulling the machine out from under the cut, the pulling chain fell off the side sheave. James stopped the machine and Adam stepped alongside of the cutter bar to place the chain around the sheave. Before Adam had completed this task, James turned the controller on and the cutter chain struck Adam's foot and leg."

From the above, it appears that the Safety Department did not get the true story of the accident when it happened.

December Injury

JOHN SKUBIC, *Tracklayer, Rock Springs No. 4 Mine.* Fracture of the right small toe. Period of disability estimated—four weeks.

John was shoveling loose coal and boney from around the drive of a shaking conveyor unit preparatory to making repairs. Part of the material was being shoveled and thrown on a pile of gob up the pitch from the drive, when a small piece of boney rolled off the pile and struck John's foot, fracturing the small toe. John was wearing protective shoes but with our present type of shoe the small toe is unprotected. However, the shoe probably kept other toes from being injured.

This accident could have been easily avoided had John used a little more precaution in piling the loose material so it would not roll down the pitch. Small things such as the above cause serious injuries and result in a large amount of lost time to the injured workmen.

Unit Foreman	*Mine*	*Period*	*Manshifts*
Grover Wiseman	Superior "B"	2½ Years	16,002
Arkle and Hotchkiss	Superior "B"	2½ Years	12,592
W. H. Walsh	Superior "B"	2½ Years	13,550
Frank Stortz	Superior "C"	2½ Years	8,160
Thomas Overy	Rock Springs No. 4	2 Years	19,433
Andrew Young	Rock Springs No. 8	2 Years	7,839
Austin Johnson	Superior "C"	2 Years	13,252
Ben Caine	Superior "E"	2 Years	16,239
R. T. Wilson	Winton No. 3	2 Years	16,393

Safety Awards to be Made Friday, February 9, 1934

THE third annual safety awards, a five passenger automobile, with all of the late improvements, including such safety features as safety glass throughout, bumpers, knee action front wheels, six-ply tires, and other features too numerous to mention, together with $1,250 in cash awards of different denominations, will be made Friday, February 9th, 8 p. m., at The Union Pacific Coal Company's Old Timers' Building.

After surveying and checking all of the accidents that have caused lost-time injuries to employes in the various mines and surface operations during 1933, we have found that there will be a total of twenty-one underground and three surface sections, eligible to participate in the drawings, inasmuch as no one in these sections has sustained a lost-time accident. They follow:

Section Foreman	*Mine and Section*	*Manshifts*
Underground:		
Ben Lewis	R. S. 8, Sec. 2.....	11,383
Frank Slaughter	Winton 1, Sec. 2....	10,747
Thomas Overy	R. S. 4, Sec. 1.....	9,476
Ernest Besso	Winton 1, Sec. 1....	9,155
R. T. Wilson	Winton 1, Sec. 3....	7,721
Grover Wiseman	Superior B, Sec. 1..	7,242
Thomas Robinson	Superior E, Sec. 3..	6,764
James Reese	R. S. 4, Sec. 3.....	6,607
Austin Johnson	Superior C, Sec. 3..	6,558
Sam Gillilan	Superior E, Sec. 2..	6,401
Ben Caine	Superior E, Sec. 1..	6,289
J. L. Orr	Hanna 4, Sec. 2.....	5,739
Roy Huber	Superior B, Sec. 4..	4,919
W. H. Walsh	Superior B, Sec. 3..	4,833
Andrew Young	R. S. 8, Sec. 4.....	4,593
R. V. Hotchkiss	Superior B, Sec. 2..	4,180
John Adams	R. S. 4, Sec. 4.....	3,520
Clem Bird	Winton 1, Sec. 5....	3,168
Frank Stortz	Superior C, Sec. 2..	2,826
Paul Cox	Superior E, Sec. 5..	966
Henry Bays	Superior E, Sec. 6..	902
Surface:		
Arthur Henkell	Rock Springs	17,967
Port Ward	Superior	14,696
Richard Gibbs	Winton	10,624

The following rules will govern the contest:

1. All men who have worked in one of the above sections and who have not sustained a lost-time injury in the twelve months' period are eligible for a ticket on the awards.

2. Names of men entitled to tickets will be typed by sections for each district and posted.

3. Tickets will be issued by the Auditing Department of The Union Pacific Coal Company.

4. The tickets will be in three sections, one section to be retained by the employe, one section to be folded and placed in a capsule and dropped in a locked box by the employe, the third section to be retained by the Auditing Department.

5. After all sections have been given their tickets, the Auditor will keep the locked boxes containing the capsules in a vault under lock and key until the night of the drawing.

6. The drawing of tickets will take place in the Old Timers' Building of The Union Pacific Coal Company, Rock Springs, Wyoming, 8 p. m., Friday, February 9, 1934.

7. Preceding the drawing, the Auditor will put the capsules containing the tickets in two bowls, one for the underground sections and the other for the surface sections.

8. Capsules are to be thoroughly mixed after being put into the bowls.

9. A small girl, blind-folded, will draw a capsule from the bowl and hand it to two disinterested Labor representatives, who will open it, note the number recorded, passing it on to the announcer, who will call out the number.

10. The separate drawing for surface employes will be held first, and to the employe holding the first ticket drawn will be given a cash prize of $100. To the holders of the next two tickets drawn will be given cash awards of $50 each.

11. The drawing for underground sections will begin immediately after the surface drawing is held, and to the employe holding the first ticket drawn will be awarded the first prize, a five passenger automobile. With the award of the automobile, all outstanding tickets held by the remaining underground employes of the mine receiving the automobile will be barred from further participation in the awards.

12. To the employes holding the next nine (9) tickets drawn (excluding those barred by Rule 11) will be awarded nine cash prizes in the order and amount as shown: Second prize $200, four prizes of $100 each and four prizes of $50 each.

13. To the underground Section Foreman in charge of the section in which the employe winning the automobile is employed will be given a cash prize of $150. To the underground Section Foreman in charge of the section in which the first cash prize is awarded, will be given a prize of $100.00. If more than one Foreman has been in charge of each of the winning sections, during the year, the two cash prizes will be divided among the several Foremen on a time basis.

Every employe should make an effort to be in attendance and make it an event long to be remembered.

Standings of the Various Sections in the Annual Safety Contest

THE year of 1933 ends with twenty-one sections going the entire twelve months without a lost time injury. This compares with twelve sections for the year 1932 and nine for the half year contest in 1931. An interesting side light on the contests thus far is that there are four unit foremen whose sections have completed the two and one-half years without an injury and an additional five that have completed the past two year period. The names and manshifts worked in their sections are given elsewhere in this issue of the magazine. The month of December added one more injury making a total of thirty-nine injuries counted in the contest for the year. This is 6,281 manshifts per injury compared to 3.447 in the year 1932 and 2,133 in the last half of 1931. The number of manshifts worked in the "no injury" sections in 1933 was 123.989 exclusive of the 2.262 manshifts in the no injury discontinued sections.

The year as a whole showed progress in many ways although it was marred by several bad months and an increase in fatalities over the previous year. The minor injuries were nearly eliminated and a material reduction in serious injuries was made. The results do show there has been considerable effort put forth to work safer and make the working places safer. The outside which had a contest for the first time finished the year with 18.135 manshifts per injury. A very good record but an analysis of the injuries proves to all of us that a little extra care will make this much better. So let us for the coming year take pride in the achievements of the past remembering that only through personal effort is progress made and if 1934 is to continue on the march toward our safety goal we must renew our efforts as an individual and as a unit. "Let us make safety a habit."

UNDERGROUND SECTIONS

	Section Foreman	*Mine and Section*	*Manshifts*	*Lost Time Injuries*	*Manshifts Per Injury*
1	Ben Lewis	Rock Springs 8, Section 2	11,383	0	No Injury
2	Frank Slaughter	Winton 1, Section 2	10,747	0	No Injury
3	Thomas Overy	Rock Springs 4, Section 1	9,476	0	No Injury
4	Ernest Besso	Winton 1, Section 1	9,155	0	No Injury
5	R. T. Wilson	Winton 1, Section 3	7,721	0	No Injury
6	Grover Wiseman	Superior B, Section 1	7,242	0	No Injury
7	Thomas Robinson	Superior E, Section 3	6,764	0	No Injury
8	James Reese	Rock Springs 4, Section 3	6,607	0	No Injury
9	Austin Johnson	Superior C, Section 3	6,558	0	No Injury
10	Sam Gillilan	Superior E, Section 2	6,401	0	No Injury
11	Ben Caine	Superior E, Section 1	6,289	0	No Injury
12	J. L. Orr	Hanna 4, Section 2	5,739	0	No Injury
13	Roy Huber	Superior B, Section 4	4,919	0	No Injury
14	W. H. Walsh	Superior B, Section 3	4,833	0	No Injury
15	Andrew Young	Rock Springs 8, Section 4	4,593	0	No Injury
16	R. V. Hotchkiss	Superior B, Section 2	4,180	0	No Injury
17	John Adams	Rock Springs 4, Section 4	3,520	0	No Injury
18	Clem Bird	Winton 1, Section 5	3,168	0	No Injury
19	Frank Stortz	Superior C, Section 2	2,826	0	No Injury
20	Paul Cox	Superior E, Section 5	966	0	No Injury
21	Henry Bays	Superior E, Section 6	902	0	No Injury
22	Dewey McMahon	Rock Springs 8, Section 3	13,151	1	13,151
23	Steve Kauzlarich	Winton 1, Section 4	10,804	1	10.804
24	Ben Cook	Hanna 4, Section 4	6,245	1	6,245
25	James Whalen	Rock Springs 8, Section 5	4,817	1	4,817
26	Clyde Rock	Superior C, Section 5	4,638	1	4,638
27	William Greek	Reliance 1, Section 3	9,252	2	4,626
28	Clifford Anderson	Superior C, Section 4	4,514	1	4,514
29	J. V. McClelland	Hanna 2, Section 1	7,945	2	3,973
30	Matt Marshall	Rock Springs 8, Section 1	11,462	4	2,866
31	J. R. Cummings	Hanna 4, Section 3	5,529	2	2,765
32	J. V. Crawford	Hanna 4, Section 1	6,894	3	2,298
33	Steve Welsh	Reliance 1, Section 2	9,123	4	2,281

34	Eliga Daniels	Rock Springs	4,	Section 2	10,393	5	2,079
35	John Reese	Reliance	1,	Section 4	5,896	3	1,965
36	Jed Orme	Rock Springs	8,	Section 6	4,510	3	1,503
37	Adam Flockhart	Superior	C,	Section 1	2,323	3	774
38	Richard Haag	Superior	E,	Section 4	1,208	2	604
	Discontinued Sections				2,262	0	No Injury
	TOTAL ALL INSIDE SECTIONS, YEAR 1933				244,955	39	6,281
	TOTAL ALL INSIDE SECTIONS, YEAR 1932				248,154	72	3,447

OUTSIDE SECTIONS

	Section Foreman	*District*	*Manshifts*	*Lost Time Injuries*	*Manshifts Per Injury*
1	Arthur Henkell	Rock Springs	17,967	0	No Injury
2	Port Ward	Superior	15,091	0	No Injury
3	Richard Gibbs	Winton	10,624	0	No Injury
4	E. R. Henningsen	Hanna	19,640	2	9,820
5	William Telck	Reliance	9,611	2	4,806
			72,933	4	18,233

Your Health

During the year there will be placed in the magazine, copies of the National Safety Council's Safety Instruction cards that should prove of interest to our employes. At times they may not seem to be practical especially to the underground workers, but, in most cases, they will be practical and helpful hints. With colds always more or less prevalent, we use card No. 125 to begin the series. Many will scoff and laugh at instruction No. 10 of this card, it being impossible at this time for miners to wash their hands before the noon-day meal. Remember, however, that sandwiches, etc., can be wrapped in oiled paper and eaten without touching their contents with soiled hands.

Colds

Do not let influenza, grippe and colds undermine your health. Avoid them by observing the following precautions:

1. Avoid temperatures of over 70 degrees in your working and dwelling rooms (providing manufacturing processes permit.)

2. Avoid over-eating. Include plenty of milk, orange juice, leafy vegetables, eggs and salads in your diet throughout the winter.

3. See that you get the proper amount of rest and sleep every day.

4. Avoid persons who cough and sneeze at you.

5. See that both kidneys and bowels are working well each day.

6. Drink at least six glasses of water daily besides what liquids you use at your meals.

7. Accustom your skin to changes of temperature by dressing according to the weather, and by taking cool shower baths every morning if you can arrange it.

8. If possible, arrange to get artificial sunshine through ultra-violet ray exposure, during the winter.

9. If you find your throat sore or your nose running, take a teaspoonful of baking soda in a glass of water three times a day, and add more milk and oranges to your diet.

10. Wash your hands with soap and hot water before each meal and keep the fingers away from the mouth and nose.

IF YOU DEVELOP A FEVER GO TO BED AND CALL YOUR DOCTOR.

Raising Mules in Wyoming

An interesting story of old Mine No. 1 at Carbon, Wyoming, was recently related to the writer. Had heard of the incident several times in past years but this informant seemed to be possessed of more of the details than previous tellers.

At the mine above mentioned in the year 1874, the Stable Boss (Jens Hansen by name) was given instructions to bring out two mules which had not seen the daylight for some three or four years, the reason assigned for this action being that the shaft head had been destroyed by fire. One of the employes had been lowered into the mine with a stout rope and windlass, his duty being to arrange to adjust the rope on to the animals, making sure it was secure, properly hitched and adjusted to preclude any accident. The first mule reached the surface okeh, but in the case of "Pete," an unruly, stubborn and tricky "Missourian," some difficulty was encountered caused by the rope slipping around his neck just as the "varmint" neared the top and his wind was shut off by the tautening of the rope. After a council of war, it was decided that there was nothing to be done but to elevate him the balance of the distance. When the top was reached, the poor mule was limp. He was permitted to rest for some period of time and fully recovered, serving the balance of his life on the outside, probbly as a reward for strangling while in suspension.

On Prayer

DR. HARRY E. FOSDICK relates that Samuel Johnson once was asked what the strongest argument for prayer was, to which Johnson replied, "Sir, there is no argument for prayer." What Johnson meant to convey was that praying is as natural to man as breathing, drinking or eating; in substance, praying is a natural impulse, one, however, but infrequently exercised by many. Prayer is either an appeal for guidance or for help. Many persons pray regularly and frequently, and there are those who express thankfulness to the Creator almost unconsciously. We have in mind a woman now living on a hilly farm in the rough and broken portion of Ireland, who never failed to express her gratitude for even the accustomed gifts of nature (such as a sunny day, or a gentle rain) with the expression "Thank God." This woman left America a quarter of a century ago, but she yet writes to the woman in whose household she was employed in "The States," and with each recital she adds the abbreviation, "T. G.". Simple perhaps, but if one knew the loyalty of this person, her abiding belief in God, her written abbreviations would seem no less real than her spoken words.

In 1785 an English churchman wrote a treatise on "Moral and Practical Philosophy." William Paley died 129 years ago, and while his writings contained little that was wholly original and definitely profound, his work is still read for his strength of reasoning power and his faculty of clear arrangement. Paley summed up the necessity, value of, and importance of prayer in three paragraphs.

> "1. A favor granted to prayer may be more apt, on that very account, to produce good effects upon the person obliged. It may hold in the Divine bounty, what experience has been raised into a proverb in the collation of human benefits, that what is obtained without asking is oftentimes received without gratitude.
>
> "2. It may be consistent with the wisdom of the Deity to withhold His favors until they be asked for, as an expedient to encourage devotion in His rational creation, in order thereby to keep up and circulate a knowledge and sense of their dependency upon Him.
>
> "3. Prayer has a natural tendency to amend the petitioner himself, and thus to bring him within the rules which the wisdom of the Deity has proscribed to the dispensation of His favors."

Too many prayers represent but the selfish desires and aspirations of those who are neglectful of their duties and responsibilities to their God, while they are in good health, and when "times are good" and they are prospering. For example, millions of young men went into the Great War, as they have gone into other wars, without any personal thought of prayer. Perhaps the majority of them held faint recollections of the little prayers taught them by their mothers in their early years. Then came the reality of war, the shriek of shot and shell, the cries of the wounded, and the writhings of those who were dying. A writer tells of a soldier in the Civil War who was wounded in a certain battle. When the army chaplain found the soldier he asked, "Do you ever pray?" "Sometimes," was the answer. "I prayed last Saturday night when we were in that fight. I guess everybody prayed there." Let us take the present-day situation. We will venture the assertion that a large percentage of those who go up in airplanes for the first time, experience a feeling of fear, and a desire to "say a word or two" for themselves as the machine gains speed just before it leaves the ground. Some doubtless do say a halting prayer, others, perhaps from a sense of good sportsmanship, remain silent, feeling that a God neglected in fair weather, should not be called upon in times of storm and stress. It would be better sportsmanship to accept the fact that a belief in a God of some form or another is inherent in the hearts and souls of all humanity. Primitive man turned to his idols or his god only when overtaken with fear, in some crisis. It was with the coming of Jesus Christ that our conception of the Deity changed from a God who dealt with his children in terms of fear and punishment, to a God of mercy and of love.

One cannot give much thought to prayer without recalling the hours that Christ spent in agony of soul and body in the Garden of Gethsemane when His disciples slept, and to the answer that He made in His dying moments to the man who was crucified and dying by His side, "Verily I say unto thee, today shalt thou be with me in Paradise." One of the most lovely stories of prayer that was ever written is that which came from the pen of John Watson, a Scottish Presbyterian clergyman, who wrote under the pen name of Ian Maclaren, "A Doctor of the Old School." Maclaren told the story of this good doctor's life among his people in a Highland Glen, of his sickness and death. Turning to his lifetime friend, Patrick Drumsheugh, who alone was with him on that last storm-swept night, he said:

> " 'Ye'ill find ma mither's Bible on the drawers' heid, but ye'ill need ta come close tae the bed, for a'am no hearin' or seein' sae weel as a' wes when ye cam'.'
>
> "Drumsheugh put on his spectacles and searched for a comfortable Scripture, while the light of the lamp fell on his shaking hands and the doctor's face, where the shadow was now settling.
>
> " 'Ma mither aye wantit this read tae her

when she wes sober', (weak), and Drumsheugh began, 'In My Father's house are many mansions,' but MacLure stopped him.

" 'It's a bonnie word, an' yir mither wes a sanct; but it's no for the like o' me. It's ower gude; a' daurna tak it.

" 'Shut the buik an' let it open itsel', and ye'ill get a bit a've been readin' every nicht the laist month.'

"Then Drumsheugh found the Parable wherein the Master tells what God thinks of a Pharisee and of a penitent sinner, till he came to the words: 'And the publican, standing afar off, would not lift up so much as his eyes to heaven, but smote upon his breast, saying, God be merciful, to me a sinner.'

" 'That micht hae been written for me, Paitrick, or ony ither auld sinner that hes feenished his life, an' hes naething tae say for himsel'.'

" 'It wesna easy for me tae get tae kirk, but a' cud hae managed wi' a stretch, an' a' used langidge a' sudna, an' a' micht hae been gentler, and no been so short in the temper. A' see't a' noo.'

" 'It's ower late tae mend, but ye'ill maybe juist say to the fouk that I wes sorry, an a'm houpin' that the Almichty 'ill hae mercy on me.'

" 'Cud ye . . . pit up a bit prayer, Paitrick?'

" 'A' haena the words,' said Drumsheugh in great distress; 'wud ye like's tae send for the minister?'

" 'It's no the time for that noo, an' a' wud rather hae yersel'—just what's in yir heart, Paitrick: the Almichty'ill ken the lave (rest) Himsel'.'

"So Drumsheugh knelt and prayed with many pauses.

" 'Almichty God . . . dinna be hard on Weelum MacLure, for he's no been hard wi' onybody in Drumtochty . . . Be kind tae him as he's been tae us a' for forty year . . . We're a' sinners afore Thee . . . Forgive him what he's dune wrang, an' dinna cuist it up tae him . . . Mind the fouk he's helpit . . . the weemen an' bairnies . . . an' gie him a welcome hame, for he's sair needin't aifter a' his wark . . . Amen.'

" 'Thank ye, Paitrick, and gude nicht tae ye. Ma ain true freend, gie's yir hand, for a'll maybe no ken ye again.'

" 'Noo a'll say ma mither's prayer and hae a sleep, but ye'ill no leave me till a' is over.'

"Then he repeated as he had done every night of his life:

" 'This night I lay me down to sleep,
I pray the Lord my soul to keep,
And if I die before I wake,
I pray the Lord my soul to take.' "

The old doctor was a child again and he fell asleep for a few moments, when a "swish" of snow, driven by the wind against the window of the death chamber, awoke him. In his dying delirium he thought a call had come to him, a call of mercy. "Are ye frae Glen Urtach?" and an unheard voice seemed to have answered him. He spoke of his imaginary patient, of her suffering, then he spoke of saddling his faithful old mare Jess, who had carried him on hundreds of just such errands as that which was now passing through his fevered brain. The journey was made, and in his delirium the old man and his faithful Jess were on their way home.

" 'Yon's the licht in the kitchen window; nae wonder ye're nickering (neighing); . . . it's been a stiff journey; a'm tired, lass . . . a'm tired tae deith,' and the voice died into silence.

"Drumsheugh held his friend's hand, which now and again tightened in his, and as he watched, a change came over the face on the pillow beside him. The lines of weariness disappeared, as if God's hand had passed over it; and peace began to gather round the closed eyes.

"The doctor has forgotten the toil of later years, and has gone back to his boyhood.

" 'The Lord's my Shepherd, I'll not want,' he repeated, till he came to the last verse, and then he hesitated.

" 'Goodness and mercy all my life
Shall surely follow me.'

" 'Follow me . . . and . . . what's next-Mither said I wes tae hae't ready when she cam'.'

" 'A'll come afore ye gang tae sleep, Wullie, but ye'ill no get yir kiss unless ye can feenish the psalm.'

" 'And . . . in God's house . . . for evermore my . . . hoo dis it rin? a' canna mind the next word . . . my, my—'

" 'It's ower dark noo tae read it, an' mither'ill sune be comin'.'

"Drumsheugh, in an agony, whispered into his ear, 'My dwelling-place, Weelum.'

" 'That's it, that's it a' noo; wha said it?'

" 'And in God's house for evermore
My dwelling-place shall be.'

" 'A'm ready noo, an' a'll get ma kiss when mither comes; a' wish she wud come, for a'm tired an' wantin' tae sleep.'

" 'Yon's her step . . . an' she's carryin' a licht in her hand; a' see it through the door.'

" 'Mither! a' kent ye wudna forget yir laddie, for ye promised tae come, and a've feenished ma psalm.

" 'And in God's house for evermore,
My dwelling-place shall be.'

" 'Gie me the kiss, mither, for a've been

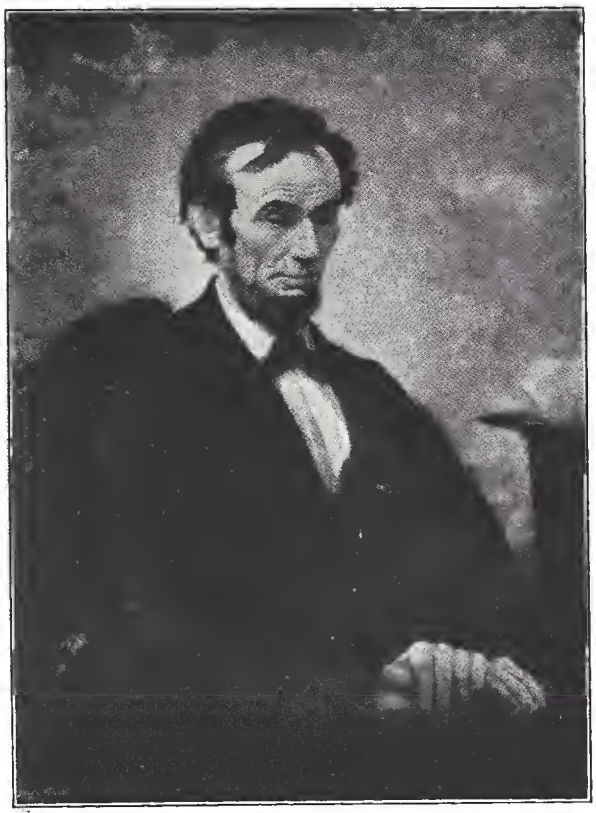
waitin' for ye, an' a'll sune be asleep.'

"The gray morning light fell on Drumsheugh, still holding his friend's cold hand, and staring at a hearth where the fire had died down into white ashes; but the peace on the doctor's face was of one who rested from his labours."

Serving Mankind, Lincoln's Aim

ABRAHAM LINCOLN was born in Hardin County, Kentucky, February 12, 1809, was inaugurated 16th President of the United States in 1861, died April 15, 1865, from gunshot wounds inflicted by John Wilkes Booth. His remains lie at Springfield, Illinois. Mrs. Lincoln, his wife, was a daughter of Robert S. Todd, a pioneer settler of Kentucky, and to them were born three sons, all long since deceased.

In a story appearing in this number the versatility of Washington was commented upon, and the writer wondered which of the two had shown the greater adaptability. Picture Abraham Lincoln in his various capacities of partner in a small crossroads store, splitting rails and shucking corn that he might earn sufficient money with which to pay for a borrowed book (Life of Washington) which had become damaged while in his possession, his studies at night by candle light or the glow of the fire before which he sat, a piece of charcoal utilized for a pencil and a section of a board acting as a slate, so eager was his desire to acquire learning. He was Postmaster at New Salem, Illinois, served as an officer of Volunteers in the Black Hawk Indian War, was a member of the Illinois Legislature 6 years, a Congressman, read in all his spare moments such law books as he could procure, his respect for law having had a strong hold upon him, standing out pre-eminently.



Abraham Lincoln

He and a companion took a river boat down to New Orleans on one occasion figuring to dispose of a load of produce at that center. Following the sale of their cargo, the young fellows sauntered about town and their ramblings brought them to the slave market where they witnessed the sale at auction and separation of husbands, wives, children, etc. This appeared very distasteful to Lincoln and he remarked at the time "By the Eternal God, if I ever get an opportunity to hit this thing on the head, I will smite it hard." The outlook seemed rather remote that he would ever be clothed with sufficient authority to strangle this old custom, but if one will continue his life story it will be noted that it was he who took up his pen and wrote the proclamation whereby the slaves were emancipated, the slave market forever abolished, etc., the date effective of the proclamation being January 1, 1863.

It has been many times stated that "Geo. Washington was the founder of the country but Abe. Lincoln it was who saved it."

In a "private" letter Mr. Lincoln addressed to Horace Greeley, Editor of New York "Tribune," anent his ambition to save the Union with or without slavery, we quote a portion thereof:

> "If I were to suggest anything it would be that, as the North is already for the measure, we should urge it persuasively and not menacingly upon the South. I am a little uneasy about the abolishment of slavery in the District of Columbia, not but I would be glad to see it abolished, but as to the time and manner of doing it. If some one or more of the border states would move first, I should greatly prefer it, but if this cannot be in a reasonable time I would like the bill to have three main features, gradual, compensation, and vote of the people. I do not talk to members of Congress on this subject except when they ask me. I am not prepared to make any suggestions about confiscation."

A brass plate (commemorating the Proclamation) adorns the wall of a room in the White House once used by Lincoln as a study. There the question of slavery was under much discussion at times and there the portentous proclamation received its executive signature.

In closing, the writer wishes to pass along the word that Lincoln, too, was a firm believer in a Divine Providence, as witness an excerpt from his last words to fellow citizens upon leaving his home at Springfield for Washington. These were spoken

with some difficulty and strong emotion at the railway station during a drizzling rain:

> "Today I leave you. I go to assume a task more difficult than that which devolved upon General Washington. Unless the great God who assisted him shall be with and aid me I must fail. But if the same omniscient mind and the same Almighty arm that directed and protected him shall guide and support me, I shall not fail, I shall succeed. Let us all pray that the God of our fathers may not forsake us now. To Him I commend you all. Permit me to ask that with equal sincerity and faith you will all invoke His wisdom and guidance for me."

Some of Washington's Good Qualities

NOTE: Our magazine has from year to year carried many details as to his life, his contribution to the nation, to mankind, etc., etc., and this brief article is submitted in the hope that it contains some information or data not hitherto presented.

DURING the late Bicentennial celebration, the papers, magazines and journals were filled to overflowing on Washingtoniana and never were so many cuts of photos and paintings of a person shown as during the period referred to.

This is the month in which we celebrate the birth of "the greatest American," February 22nd being the 202nd anniversary of George Washington, the Virginia farm boy who became our first President. Who better deserves that title, as without him there could be no United States of America as a free and independent people?

Born February 22, 1732, married January 6th, 1759, to Mrs. Martha Dandridge Custis, a facetious remark made by his estimable mother shortly after his wedding, "Now he *will* stay at home." Cold and fever which developed into quinsy caused his death on December 14, 1799.

Much has been published in book and story maligning his character, but, in the opinion of the writer, sufficient of the good material was unearthed during the recent Bicentennial to offset the bad.

Versatile, in that he dipped into many things, he practiced farming, was a miller of flour, a countryside surveyor of no mean attainments, a tobacco grower, much interested in hunting, a lover of horses, taking almost a daily ride over his estates.

He had great confidence in Divine Providence, believing that many of the difficulties and throes in which the United States was then concerned could not have been solved without help from on high and oft-times expressed his conviction that His hand was plainly visible in the many triumphs. One month after assuming the position of Commander-in-Chief of the Army (August 5, 1775) he directed that "the Church be cleaned tomorrow and the Rev. Doyle will perform Divine Service therein at 10 A. M."

Washington urged the appointment of Army Chaplains and Congress acquiesced, general orders of July 9, 1776, (the Army then in New York City) directed that "Colonels or Commanding officers of each regiment are directed to procure for Chaplains persons of good character and exemplary lives, to see that inferior officers and soldiers paid suitable respect and attended carefully upon religious exercises. The General hopes and trusts that every officer and man will endeavor so to live and act as becomes a Christian soldier defending the deepest rights and liberties of his Country."

In connection with his religious fervor, subjoined is a brief prayer which Washington was wont to utter:

> "Almighty God, we make our earnest prayer that thou wilt keep the United States in Thy holy protection, that Thou wilt incline the hearts of the citizens to cultivate a spirit of subordination and obedience to the government, to entertain a brotherly affection and

Depicting a phase of the character of George Washington with which many of us are unfamiliar and suggesting a religious faith that is all too seldom found in this hurried, heedless age, this bronze panel, which adorns the east front of the Sub-Treasury Building in the heart of New York's financial district, depicts the "father of his country" on his knees at Valley Forge during the desperate winter of 1778.

Another interesting fact in connection with the panel is that the Sub-Treasury on which it appears, occupies the site of the old Federal Hall in which Washington took his oath of office as President in 1789. The panel itself is the work of James Edward Kelly.

love for one another and for their fellow citizens of the United States at large. And finally that Thou wilt most graciously dispose all to justice, to love mercy, and to demean ourselves with that charity, and pacific temper of mind which were characteristic of the Divine Author of our blessed religion and without a humble imitation of whose example in these things we can never hope to be a happy nation. Grant our supplication we beseech Thee through Jesus Christ, our Lord. Amen."

In the words of one of his old Pastors, "he was the most punctual attendant at Church I have known, and his behavior was so reverential as to greatly aid me in my labors."

When but a lad, his fond mother used to read to him "Contemplations—Moral and Divine" (Sir Matthew Hale (1699) an early Chief Justice of the King's Bench) and such an impression did many of the paragraphs make upon him that in later years he adopted them as his creed. There is but one copy of this publication extant (in the knowledge of the writer) and that is in the possession of a gentleman named Todd of San Francisco, though some of our libraries in the East may have it upon their shelves.

At the first Continental Congress in Philadelphia, Washington among others represented Virginia and anxious to know how he matched up with some of the giants from the North the question was propounded of Patrick Henry "Whom did you consider the ablest man thereat," and his reply was in effect "From the standpoint of eloquence the greatest orator was Mr. Reynolds of South Carolina, but, for solid information and sound judgment, Colonel Washington was by far the ablest man on that floor."

Home *only* for seven days during the eight years he was fighting for our liberty. His private fortune was largely used in financing the Revolution and he declined to accept any recompense from his bankrupt country. It will be recalled by those familiar with historical facts that at the Second Continental Congress he was selected as Commander-in-Chief of the Continental Army and his salary fixed at $500.00 monthly. Upon accepting the trust placed upon him, here are quoted his words: "I do not think myself equal to the command with which I am honored, and as to pay, Sirs, no pecuniary compensation could induce me to accept this arduous employment at the expense of my domestic ease and happiness; therefore, I do not wish to profit from it, all I desire is that Congress will look after my expenses, an accurate account of which will be kept. That is all I desire."

Similarly, he refused to accept a single dollar as remuneration from his country for heading its government and paid out of his own depleted purse some three thousand dollars (which he had to borrow from a neighbor) to cover the expenses of his inauguration.

Lincoln

By Theodore Roosevelt

ABRAHAM LINCOLN—the spirit incarnate of those who won victory in the Civil War—was the true representative of this people, not only for his own generation, but for all time, because he was a man among men. A man who embodied the qualities of his fellow-men, but who embodied them to the highest and most unusual degree of perfection, who embodied all that there was in the nation of courage, of wisdom, of gentle, patient kindliness, and of common sense.

JUST PLAIN ABE

Lincoln once was in a great assembly where the people made a lane for him to pass through. "He is a common looking fellow," said one of them.

"Friend," replied Lincoln, "the Lord prefers common looking people—that is why He made so many of them."

WASHINGTON'S HACK

Mose Johnson was an old colored man, who loved to brag about his age. "You must be over a hundred years old, Mose?" one questioner asked him. "Deed I is," replied Mose. "Why I dun remember things that happened over one hundred years ago." "Is that so; then I suppose you remember Abraham Lincoln." "Of course I do and I remember his mother and father," replied Mose. "Well, well, do you recollect Thomas Jefferson?" jokingly asked his friend. "Deed ah do, deed ah do," answered Mose.

"Did you know George Washington?" "Yes sah, ah sho did." "I suppose you were with him at Valley Forge?" "Sho was; why I lit the forge." "Tell us, Mose, were you with George Washington when he took a hack and hacked down the cherry tree?" "Sho was, man, why I drove the hack."—*Exchange.*

To achieve what the world calls success a man must attend strictly to business and keep a little in advance of the times.

The man who reaches the top is the one who is not content with doing just what is required of him. He does more.

Every man should make up his mind that if he expects to succeed, he must give an honest return for the other man's dollar.

Grasp an idea and work it out to a successful conclusion. That's about all there is in life for any of us. —*Edward H. Harriman.*

Fortune Teller: "I warn you; a dark man is about to cross your path."

Motorist: "Better warn the dark man."

SEA OR SEE

Biddy: "I suppose you've been in the navy so long that you are accustomed to sea legs?"

Middy: "Lady, I wasn't even looking."

Engineering Department

Age of the Earth

By W. T. NIGHTINGALE*

Article No. 2 of a Series on Geology.

FOR untold ages men with a scientific or inquisitive turn of mind have been speculating on the age of the earth and of the rocks comprising it. The Greek Historian Herodotus, as early as 484 B. C. calculated that if the Nile River were diverted into the Arabian Gulf it would fill the gulf with sediments in 20,000 years. Since then such names, great in the scientific world, as Cuvier, Hutton, Lyell, Darwin, Kelvin, Rutherford, Chamberlain, Geike, Joly, Berrell, Holmes, and others have considered, investigated and contributed to the mass of evidence on the age of the earth.

At the opening of the Twentieth Century geologic estimates as to the age of the earth varied from 20 to 100 millions of years. This apparent great variation was due to the different methods used in arriving at a conclusion. Since the opening of this century, or in the past 30 years, scientific estimates have completely changed and it is now believed with sound reasoning that this earth on which we live is between 1½ and 2 billions of years in age. This astounding change in ideas of earth age is due to epoch making investigations into radio-active minerals and their rates of disintegration.

Prior to the discovery of facts concerning the inter-molecular behavior of radio-active minerals the two chief methods used by geologists in determining earth age were (1) the rate of land denudation and redeposition as represented in the great sedimentary thicknesses and (2) the rate of sodium chloride accumulation in the oceans.

Southwest Wyoming has contributed to the mass of geologic evidence on rate of deposition in no mean way. Detailed studies into the banded structure of the Green River shales, those sedimentary rocks that form the high precipitous cliffs around the town of Green River, have shown that nearly 8 million years were necessary to deposit the full thickness as represented by these shales. And this covers but a small part of Tertiary time which in turn represents not more than 4% of the total earth age.

In North America alone it is calculated that a thickness of 259,000 feet (about 50 miles) of sediments have deposited since the beginning of Cambrian time.

For the entire world it is believed that not less than 400,000 feet or some 80 miles in thickness has been deposited. And this represents activity over not more than 45% of known earth time.

The red quartzites that comprise the core of the Uinta Mountains are probably early Cambrian in age. The materials now represented by the red, or Uinta quartzites, were deposited over 450 million years ago and possibly as much as 600 million years back. In the Vermilion Creek region on the east end of the Uinta Mountains, only 70 miles southeast of Rock Springs, may be seen a series of upturned rocks extending from early Cambrian to middle Tertiary time. Here in one area the geologic time record covering over 450 million years is open for inspection with only some 15% of the pages missing. Southwest Wyoming is indeed a geologist's happy hunting ground.

In translating thicknesses of sedimentary deposits into terms of years wide differences occur in comparing depositional rates in the different great basins. However, giving full consideration to world wide conditions, it would appear that one foot of sand-stone requires 450 years to deposit, one foot of shale about 900 years and one foot of limestone about 2,250 years. In the total sedimentary column 37% of the rock deposits are classified as sandstones, 44% are classified as shales and 19% are classified as limestones.

The important coal mines of the Rock Springs district of Southwest Wyoming are developed in the Mesaverde formation of upper Cretaceous age. This formation received its name, Mesaverde, from the Mesaverde (green table) park region in southwest Colorado, where it was first studied by geologists. Throughout the western states where the Mesaverde formation occurs it is almost invariably coal-bearing, although not always commercially so. In our modern earth time table the Mesaverde formation, and, of course, the Rock Springs coal beds, appear to have been deposited some 75 million years ago. The Kemmerer coals, which occur in the Frontier formation, are probably about 5 million years older or some 80 million years old.

The second method of arriving at some idea of earth age is based on the amount of sodium in the ocean. In general, the total amount of sodium in the oceans divided by the annual increment should give the age of the ocean. However, it must be assumed that no sodium was present in the waters of the primeval ocean, and that there has been a steady rate of increase ever since. These assumptions, and particularly the second, are untrue. Known variables such as the sodium content of rocks being eroded, climatic conditions, size of continental areas and height of continental masses being denuded would obviously affect the rate at which

*Chief Geologist, Mountain Fuel Supply Company.

ERAS	PERIODS		LIFE	LOCAL	ROCK AGE (Years)
CENOZOIC	Quaternary	Recent	Age of man		
		Pleistocene			1,400,000
	Tertiary	Pliocene	Age of Mammals	Aspen Mountain Cap	
		Miocene			
		Oligocene		Green River Shales	
		Eocene		Hanna Coal Beds	60,000,000
MESOZOIC	Cretaceous		Age of Reptiles	Rock Springs Coal Beds Kemmerer Coal Beds Baxter Basin Gas Formations N. Baxter Basin Gas Formations	
	Jurassic				
	Triassic			Wyoming Red Beds	156,000,000
PALEOZOIC	Carboniferous	Permian	Age of Fishes	Cokeville Phosphate Beds	
		Pennsylvanian		Wyoming Black Oil Beds	
		Mississippian		Wyoming Black Oil Beds	
	Devonian				
	Silurian				
	Ordivician		Age of Invertebrates		
	Cambrian			Uinta Quartzite	600,000,000
PROTEROZOIC					
ARCHEOZOIC			Dawn of Unicellular Life		
EOZOIC					1,500,000,000

sodium would enter the ocean waters. Furthermore, all of the sodium entering the ocean does not remain in solution but some of it is known to be removed by newly deposited marine sediments. In general, the number of variables involved has made all attempts to determine earth age through the ocean's sodium content unsatisfactory.

The great contribution of the Twentieth Century, to date, toward solving the problem of earth age has been in the field of radio-activity. It was found that the radio-active elements, Uranium and Thorium were constantly disintegrating and that the end product of this disintegration was lead, a stable element. It was further found that the lead-uranium ratio in different minerals was variable. In other words some of the radio-active specimens examined have been disintegrating for a longer period of time than others. Finally it was noted that older and more disintegrated radio-active minerals were found in the older geological periods only and immediately a new key to the door of earth age became available to science. And it is the information derived from the rate of disintegration of radio-active minerals that has forced the geologist to increase his conception of earth some fifteen times and has made it evident that this earth on which we live must be not less than 1½ billion years in age.

Article No. 3 will give a sketch of the Quaternary Era of Geologic Time (Age of Man).

The Story of the Frequencies

By D. C. McKEEHAN

IN DESCRIBING the kind of alternating current used it is necessary to know the frequency. A current that alternates sixty times per second is said to have a frequency of 60 cycles per second. This is the frequency used for alternating current at all Union Pacific Coal Company Mines. In fact practically all of the energy supplied in this country today is at a frequency of 60 cycles.

In California 15, 50, and 60 cycles are used; in Colorado 30 and 60 cycles and there are other places using 25 cycles. One may wonder why a standard was not adopted. Well, it's a long story and dates back to the beginning of the electrical power industry.

At various times the following frequencies were or are in use in this country: 133⅓, 125, 83⅓, 66⅔, 60, 50, 40, 30, 25 and 15, and each had a special significance due to the commercial situation at the time. Since the original reasons have disappeared through improvements the 60-cycles frequency predominates.

In the earliest alternating current work the whole service consisted of electric lighting and each house was furnished with a small transformer. The current was 133⅓ cycles, which permitted a very small transformer and consequently low cost for a given output.

The Thompson—Houston Company adopted 125-

cycles, presumably just to be different. This was in 1886 to 1893 and before the days of the induction motor, which was not patented in principle until 1888.

One of the earliest generators to supply 133⅓ cycles ran 2,000 revolutions per minute and had eight poles. It was belt driven as no prime mover for direct coupling for that speed had been developed.

About 1890 it was recognized that a lower frequency would be desirable as it would permit direct coupling of steam engine and generator. This was tried at the Chicago World's Fair in 1893. Here two similar single-phase generators were placed side by side with their rotors displaced one half pole pitch so that the two currents were displaeed 90 electrical degrees and were capable of giving a two-phase current. They were of 2,000 K. W. capacity (at that time the largest in the country) and were built for 60-cycles.

Tests were repeatedly made for lower frequency and worked out with great precision, both in shop experiments and mathematical calculation. Tests were made with incandescent lights. It was found that at a frequency of 33⅓ cycles there was little or no winking of light while at 16⅔ and 25 cycles the winking was extremely noticeable. This showed the superiority of 33⅓ cycles as applied to this class of service.

Various frequencies were tried, used for awhile and gave way to another until finally the problem was narrowed down to the two standards of 25 and 60 eycles. These two were accepted because they covered such entirely different fields of service that neither of them could ever expect to cover the whole. In other words, two standards were required to take care of the whole range of service. It was recognized that 25 cycles would not take care of alternating current arc lighting and it was questionable for incandescent lighting in general.

In such ways as being suitable for engine-type construction, application to induction motors and synchronous converters and transmission of power to long distances, it met the needs of an ideal system, as then understood. However, although the 25 cycle system presented so many advantages, it could not take care of the lighting business and, therefore, could not entirely dominate the situation.

It was felt that 60 cycles could handle the lighting situation in a very satisfactory manner and was possibly better suited for transformers than 25 cycles, although when it came to larger capacities there was a difference of opinion in this matter. The 60 cycles was reasonably well adapted for induction motors in general but not for very low speeds. For the long distance transmission of electric power it was thought to be vitally defective and its shortcomings for synchronous converters had been proved.

One can see from the above that the 25 cycles commanded more consideration as a whole. There did appear to be a decided tendency toward this frequency except in those cases where lighting directly from the the alternating current system was considered of prime importance. The 25 cycle synchronous converter development advanced by leaps and bounds and the machines were so good in their operation that it was believed that 60 cycle converters could never be really competitive with them. The large plants where 60 cycles was installed were considered unfortunate as many apparent make-shifts were adopted to meet the various service requirements.

In arc lighting, incandescent lighting, transformers and motors there was no need for makeshifts. In conversion to direct current one of the greatest difficulties appeared. Many thought the 60 cycle converter was impracticable in spite of the fact that the manufacturing companies were putting them on the market.

Now it is recognized that many of the faults of the early 60 cycle converters were not inherent but were mostly in the associated apparatus. It was not long before 60 cycles presented considerable advantage in turbo-generator design due to the higher permissible speeds. In the earlier days this was not recognized to any extent as the speeds of all units were so low that the effect of any speed limitation was not yet encountered.

With the coming of the steam turbine and the development of high speed turbo-generator units, the tendency has been strongly toward 60 cycles. This together with the greater perfection of the 60 cycles converter had much to do with directing the practice away from the 25 cycles.

Turning from the early development of the induction motor, which operated considerably better with 25 cycles, to more refining designs which brought out the important advantages of 60 cycles was another condition to help the standardization of that frequency.

There is little choice in speed with 25 cycles for small and moderate size motors. At this frequency a 4-pole motor has a synchronous speed of only 750 R.P.M. The only higher speed obtainable is 1,500 R.P.M. with two poles and since in induction motors the two-pole construction is not any cheaper than the four-pole, the principal advantage in going to 1,500 revolutions was only in getting higher speed where such was necessary for other reasons than first cost.

However, with 60 cycles the case is quite different, where a four-pole machine can have a speed of 1,800 R.P.M. synchronous, a six-pole 1,200, an eight-pole 900 and a ten-pole 720 revolutions. Obviously there are four suitable speed combinations where a 25 cycles has but two. Moreover, with the advance in design it developed that these higher speed 60 cycles motors could be made with as good performance as with the 25 cycles motors of the same capacity, and at less cost. But leaving out the question of cost the wider choice of speed alone would be enough to give the 60 cycles motor a

pronounced preference for general service.

The most interesting thing in connection with this "battle of the frequencies" as conducted by manufacturers and engineers, during the period of pioneering, is that it was fought out in the operating field and between conditions of service and not altogether between manufacturing companies. The engineers watched and through the defects of one frequency proceeded to overcome them in the other.

It must not be assumed that the 25 cycles was a mistake, decidedly it was not. It has formed a very important step toward this present high development of electrical industry. It pointed the way for many things that are now being accomplished with 60 cycles.

It was through no preference of the engineers for one frequency or the other, it was a recognition that the 60 cycles had greater merits as a general system when its weak points were strengthened and it was to accomplish this result that the engineers turned their best efforts.

Concrete and the Water-Cement Ratio[x]

By J. L. LIBBY

CONCRETE now generally refers to a building material made by mixing stone, sand, water and cement. The ingredients are mixed together, with the addition of clean water, into a plastic mass which gradually hardens into a rock-like substance of the nature of conglomerate.

The most important quality of concrete is the facility with which it can be formed into large and strong monolithic structures, with materials that are almost universally at hand, and the mixing and placing do not require expert labor. Its usefulness depends on high compressive strength in conjunction with great durability and adequate tensile strength to insure its cohesion. Concrete is about 10 times as strong in compression as in tension, and when tensile strength is required, it is cared for by using steel reinforcing bars placed where the concrete is in tension.

The three fundamental considerations which should determine the design of concrete are strength, durability and economy. Too much emphasis on economy in construction may lead to methods producing concrete of a low resistance to the elements, and consequently shorten its usefulness. Fortunately, the factors which govern the strength of concrete affect with equal importance the resistance to the percolation of water and to weathering. These fundamentals can be obtained only by the proper selection of materials, an intelligent design of the mixture and the use of proper methods of mixing and placing the concrete, also the protection during the curing period. The effect of each of these factors has been carefully determined by field and laboratory tests.

The strength of concrete is determined by the volume ratio of the water to cement, provided suitable aggregates are used and the mixture is plastic and workable. In other words, for a fixed amount of water per sack (or cubic foot) of cement in a concrete mixture, the strength is fixed, regardless of what quantities of aggregates are used, so long as the mixture is plastic and workable. By varying the combination of fine and coarse aggregates the workability is changed. Over sanding gives a plastic workable mass, that will produce a smooth surface, but the strength will be low, and the concrete is likely to be porous. In a concrete mixture with too much coarse aggregate, there is not enough cement-sand mortar to fill the spaces between the pebbles, and the mixture will be hard to work and will result in rough, honey-combed surfaces.

For ordinary conditions, when 6 gallons (or 80%) of water are used per sack of cement, it will produce concrete with a strength of 2,400 pounds per square inch at the end of 28 days, and 7½ gallons (or equal volumes) will result in only 1,600 pounds per square inch. With rigid control for measuring all the materials, these values are, 3,000 pounds for 6 gallons of water, 2,500 pounds for 6¾ gallons, 2,000 pounds for 7½ gallons and 1,500 pounds for 8¼ gallons. The amount of free water in the aggregates reduces the mixing water a like amount.

The resistance of concrete to severe weather conditions is due largely to impermeability. Non-porous aggregates require an impermeable paste which in turn requires a low water-cement ratio. The thorough incorporation of aggregates necessitates a plastic, puddleable mix. It is apparent that control of the mixing water is a vital factor in mixing durable concrete.

Resistance to wear, flexual strength and adhesion, or bond, to the reinforcement, all bear a definite ratio to the water-cement ratio.

The time of mixing has a great bearing on the resulting concrete, as tests show that the strength is increased by longer periods of mixing. Thoroughly mixed concrete is more uniform, the workability is increased, and results in a homogeneous, water-tight mixture. Mixing concrete not less than one minute after all the materials are in the hopper is a good requirement, and one and a half to two minutes is better.

Curing is very important, and the concrete should be kept damp for from 7 to 10 days. Where concrete is allowed to dry out too soon, only part of its potential strength is attained. Proper curing is very vital in the production of water-tight concrete, and also increases the resistance to abrasion.

Placing concrete is also important, as it should be deposited in uniform layers at regular intervals around the forms, so that there is no appreciable flow. Flow causes the fines to leave the coarse ag-

(Please turn to page 83)

xNOTE: Information for this article gathered from publications by the Portland Cement Association, as well as personal field experience.

» » » Ye Old Timers « « «

Golden Wedding Anniversary

Mr. and Mrs. John T. Parr celebrated, on January 1, their 50th (Golden) wedding anniversary surrounded by their seven sons and three daughters, the first time the entire family had been assembled in 18 years. The day was mild and bright, barring a gentle rain which fell about noon, in deep contrast to the day they were joined in holy wedlock at Carbon, when the temperature was recorded at 38 degrees below zero.

During the afternoon a largely attended reception was given in one of the local fraternity halls by the Woman's Auxiliary of the Episcopal Church, over 100 being present, light refreshments were served.

Both Mr. and Mrs. Parr are natives of England, but Wyoming claims them as residents, their entire life in this country having been spent in this state. Mr. Parr entered the employ of The Union Pacific Coal Company at Carbon, in 1882, and remained at that point until the district was abandoned, removing thence to Rock Springs, then to Spring Valley, and upon the closing down of Spring Valley they returned to this city. He was 30 years in our service, later engaging with the Central Coal & Coke Company, by whom he was employed 15 years. As a child of 7, he worked in the collieries of his native country, no child labor laws in those early times. Our issue of August, 1933, contained a record of the service of the Parr family.

Top row, left to right: Fred, clerk in Post Office, Rock Springs; Frank, electrical repairman Mine No. 8, Rock Springs; James C., rope rider for the Central Coal & Coke Company; Richard J., employed in Salt Lake City, Utah; George, electrical repairman, No. 4 Mine, Rock Springs; and Ted, underground hoistman, No. 8 Mine, Rock Springs.

Bottom row, left to right: Peggy (Mrs. R. Buston), Seattle; Joe, mail carrier, Rock Springs; Mrs. John T. Parr and Mr. John T. Parr, the father and mother; Mrs. William Rogers, Rock Springs; and Mrs. M. J. Desmond, whose husband is connected with the Highway Department at Evanston.

Mrs. Parr is well-thought of in Rock Springs, always sympathetic for those in trouble or distress, her untiring energy in behalf of her Church standing out pre-eminently.

They were the recipients of many beautiful gifts upon the occasion, testifying to the esteem in which they are held in the community.

Their many friends hope the couple may be spared to celebrate many more such happy events.

Old Timer James Moon Celebrates 82nd Birthday

James Moon, dean of the Old Timers' Association, celebrated his 82nd birthday on Wednesday, January 17. In honor of the occasion, a family dinner and reunion was held at the home of Mrs. John Marietta, a large number of friends and relatives participating in the event. It is pretty generally known that Mr. Moon entered the service of the Company in Almy, in 1874, which entitles him to the distinction mentioned in the opening lines of this article. Our hearty congratulations are tendered him with the wish that he may be enabled to be present at many future celebrations of his natal day, surrounded by those near and dear to him.

John Doak, Sr., Ill

John Doak, Sr., an "Old Timer" of the Company, now residing at Ogden, Utah, with his son, came to Rock Springs shortly before Christmas to visit a married daughter and was suddenly stricken blind. He was removed to the hospital and operated upon for double cataract. Mr. Doak was retired upon pension several years since owing to declining health. His condition is reported as "getting along as well as can be expected."

Miss Jeannette Marshall and Elton Rife Wed

Miss Jeannette Marshall and Elton Rife were recently married at Salt Lake City and have gone to housekeeping on No. 1 Hill this city. She is the daughter of Matt Marshall, Unit Foreman Mine No. 8, Rock Springs, one of our old time employes, while her husband is in the employ of the Company at Reliance. Their many friends extend congratulations.

Miss Sarah Gibbs and Glenn Sprowell United in Marriage

Miss Sarah Gibbs and Glenn Sprowell journeyed to Manila, Utah, January 4, and were united in marriage. Sarah is the daughter of Mr. and Mrs. Richard Gibbs, Master Mechanic at Winton, Glenn Sprowell the son of Mrs. M. W. Medill, Reliance.

Obituary

Mrs. Janie McQuillen Rodda, wife of William J. Rodda, Car Dropper Mine No. 8, Rock Springs, died January 11th after a prolonged illness. She was born in Durham County, England, and came to the United States with her parents at an early age. Her marriage was October 23, 1900. and to the union were born three sons. Two brothers and two sisters also survive. Her many friends and relatives mourn her taking. The funeral was on Sunday, January 14, interment at Mountain View Cemetery, Rev. H. C. Swezy officiating.

Some Paragraphs on Old Carbon

IN THE pioneer days of Carbon, Wyo.. now a "ghost town," it served not only as a construction camp for the railroad which was being pushed through westward but also attained considerable prominence by reason of its mammoth coal deposits. In our November issue, the reader may recall the short story and accompanying pictures of the medal awarded to The Union Pacific Coal Company for its display of Carbon coal at the World's Columbian Exposition, Chicago, in 1893.

The money with which the miners were to be paid was shipped by express from Omaha in canvas sacks and upon reaching its destination was dumped on to the depot platform, resting there for hours before being picked up, and, strange to relate, was never molested.

The town's first hotel was erected by a Mr. Joseph Cruise, the Adam Arnold family purchasing the building from him before its completion. It was called the "Wyoming House."

Early Agents and Telegraph Operators at the camp were Oscar Collister, ? Carlin, Terry P. Mahoney, Edgar E. Calvin, et al.

Elk Mountain furnished the mine timbers, they being hauled to Percy in wagons, loaded on the train there and transported to Carbon.

The miners' cabins were constructed of logs with dirt roofs on the side of the hill and a fence had to be put up atop the hill to keep cattle, sheep and other animals from walking on the roofs of the shacks.

Indians proved quite a menace in the early times there, stealing stock, many travelers being found in the vicinity killed and scalped.

Some of the town's first school teachers were Anna Fisher (later Mrs. J. S. Jones), Mrs. Randall Clay, Prof. Matthews, Mrs. L. G. Smith.

The Carbon mines were abandoned in 1902 and the railroad main line was then built through Hanna (mines there opened in 1889), (hitherto only on a branch) leaving Carbon on a spur.

Early mine Superintendents were John Tompkins, James Williams, William Robinson, L. G. Smith, L. R. Meyer, E. J. Hall and Alex Briggs. Some of the Foremen are also here mentioned: Walter Roger, William Gardner, George Haywood, George Stanfield, Thomas Quealy, W. H. Brown.

The Pioneer Overland Line

BEN HOLLIDAY back in the early '60's operated the Overland Stage Line. Ben and his good wife, it is related, concluded to "take a ride" from his home in Sacramento, Calif., to a point in eastern Kansas, from whence he could complete his trip by rail to the Atlantic seaboard. None but his Superintendents knew of his intention to make the journey and the utmost secrecy was observed due to the fact that he had concealed in the false bottom of the coach many thousands of dollars in gold, worth $2.40 in greenbacks, and the fact was patent to every one in the West in those days that precious shipments of this character were usually transported in the treasure box in the front boot of the vehicle, the boot in the rear being reserved for U. S. mail. When the stage was in the territory between Green River and Salt Wells, Wyoming, three men suddenly sprang from a ravine, each fully equipped with shot guns and revolvers, ordered the driver to halt, urging upon the passengers to "stick 'em up high."

While search was being effected, the bristly moustache of Mr. Holliday so tickled his nose that he could scarcely resist a movement to scratch that organ. One of the bandits noticed the effort being made to rub the offending nose and ordered Ben at the point of the gun "to keep his hands up high." Ben remarked, "My Lord, I simply must scratch my nose, can't stand it any longer," whereupon the road agent proceeded to rub his gun muzzle against Ben's nose remarking, "I'll attend to the nose business." Needless to state, the traveler's ruse was not discovered, Mr. Holliday safely reached New York turning his gold into greenbacks and upon "cashing in" had $96,000.

Holliday was called the "King of Western Transportation" and at the crest owned some 500 stage coaches, a like number of freight wagons, over 5,000 horses and mules, and oxen without number. It was also reported that he possessed a fleet of 16 steamers plying between San Francisco, Panama, Oregon, China and Japan, and that Uncle Sam paid him about one million dollars annually on contracts.

Indian raids upon his stages were so frequent that in 1862 he changed the routing and ran them via the South Platte (via Julesburg) Laramie Plains and Green River to Fort Bridger, following the old established line from the latter point to Salt Lake City. The raids were not stopped by his strategy but continued until the line was so badly crippled that he disposed of his Overland Line to Wells-Fargo & Co. in 1886. His coaches were of the Concord type built in the city of that name in New Hampshire, the harness was also manufactured in the same place by the Hill Harness Co. Six horses were attached to each coach, most of them being Kentucky bred—matched as to color and size.

One of the earliest lines was that of Hockaday & Liggett (established in 1851) which operated between St. Joseph, Mo., and Salt Lake City, their trips at first being monthly and later on changed to semi-monthly. In 1858, the line was disposed of to Russell, Major & Waddell. W. F. McGraw operated a line from Sacramento, Calif., to Salt Lake City making connections with the first-named operation at the city last mentioned, but, even with government assistance in carrying mails, failed a few years afterwards.

In September 1857, the Butterfield Overland Mail Company contracted with the government to carry mails between the Missouri River and California for a period of six years, St. Joseph, the eastern terminus, and San Francisco on the West, were selected as the points of beginning. John Butterfield and William G. Fargo were the promoters and principal stockholders of the concern. The route followed was through Indian Territory, New Mexico, Texas, etc. After the Civil War began, however, the route was changed to the Northern Territory, via Ft. Laramie, Ft. Bridger, Salt Lake City, etc., to Placerville, Calif., the time consumed being seventeen days.

Upon the completion of the Union Pacific road, the business of the stage companies began to decline and the latter operated lines into the interior from important points along the railroad.

Jim Stephenson (formerly of Omaha and now many years deceased) operated in 1886 and several succeeding years the Western Stage Company, if the memory of the writer is correct, from Rawlins to Lander, serving en-route the South Pass and Miners Delight gold country, and your humble scribe felt considerable pride in carrying its annual pass, which was never used by the way. In after years, Mr. Stephenson operated a large livery at the corner of 10th and Harney Streets, Omaha. His coaches were rented for picnic parties, short trips to nearby lakes out of Omaha, in parades, etc., but in latter days they were known as "Tally-ho" Coaches.

Average Person Eats 12,000 Eggs

If, at the age of 75, a man could visualize the food he has eaten since his birth, it would amount to considerable tonnage. In a lifetime we consume about 1,500 times our own weight in food.

Included are about five tons of fish, 12,000 eggs, five tons of sugar, 1,500 pounds of salt, a trainload of vegetables, 15 tons of meat and 20,000 gallons of water.

"How did you make your neighbor keep his hens in his own yard?"

"One night I hid half a dozen eggs under a bush in my garden, and next day I let him see me gather them. I wasn't bothered after that."

The Evolution of Eyes

Condensed from The American Scholar

THOMAS HALL SHASTID
Ophthalmologist to St. Luke's and St. Mary's Hospitals, Duluth

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AGES AGO, when earth had cooled and life had begun to appear in its tepid waters, one of the first things developed was eyes. Even the ameba, the lowliest of all known animals, of which countless trillions exist today precisely as they were when life originated on this planet, may be said to possess eyes. Or rather, the ameba's body is all eye—every portion of the ameba can perceive light. But while in the process of evolution some eyes, like this generalized light-sense of the ameba, have stood quite still, others, like the literally superhuman eyes of birds, have moved forward incredible distances.

When we come to the insects we find that they have two kinds of eyes: simple and compound. If one looks at a common house-fly one can see that its head consists almost entirely of two large, dark-brown lobes, the compound eyes, each made up of more than 4,000 eye-units. From each compound eye a mosaic picture—of more than 4,000 minute picture-fragments—is conveyed to the fly's central nervous system. The fly also has three single eyes, situated, in the form of a triangle with its sharpest point downward, in the space above and between the two compound eyes.

The compound eyes of the fly are used for distance, i.e. three to four yards, and the single eyes for near vision, from one to two inches. Some insects have only compound eyes, some only single, but most of them have both. None of these insect eyes have any movement—the eyes are set on the fly's head as solid as so many jewels in a watch.

Leaving the insects, the fishes are the first of the great back-boned class of animals. In fishes, Nature produced the first true focusing arrangements and muscles with which to move eyes in their sockets. But fish are color-blind. Tell this to a fisherman with his brightly colored flies and he will laugh derisively, but it is a demonstrable fact. Fish can distinguish between different colors, but do not see them as colors—only as various shades of gray, precisely as a color-blind person would. Fish have also a very restricted visual field, seeing scarcely anything below the level of the head.

The reptilia added little to eyes. In general snakes have very poor sight. Most of them see only objects in motion and are nearly deaf too, so that their knowledge of the world reaches them largely by way of the little forked tongue, probably the most wonderful tactile organ in existence. This feels myriads of vibrations in the atmosphere which, to our coarse sense of touch, are non-existent.

Birds' eyes are the most remarkable of all earthly eyes, being often both telescopic and miscroscopic. In birds the visual acuteness is almost incredible, in some instances 100 times as great as that in men. A bit of grain that human eyes can barely see at a distance of one yard, a bird can see distinctly at a distance of 100 yards. This remarkable sight is almost a necessity because the sense of smell in birds is exceedingly poor. Even vultures, contrary to popular superstition, do not smell their food even though it be carrion, but see it.

Mammals may be classified as non-primates and primates, the primates including monkeys, apes, and men. In nearly all the non-primates the eyes are not set out on the front of the face but at the side of the head. Scarcely any of the non-primates have any overlapping of the visual fields of the two eyes and those which do have some overlapping have no true stereoscopic vision—vision with depth and relief to it. Hares and rabbits actually have the fields overlapping behind their heads (behind, because these animals are not hunters, but hunted), yet they have no stereoscopic vision.

A very great difference exists among mammals in the shape of the pupil when in contracted condition. The domestic cat has a narrow vertical pupil, which it needs for the purpose of hunting its prey up and down trees. (This is not true of all the cat family; lions and all the larger *felidae* have round pupils.) The horse has pupils which are wide horizontally in order that the animal, when grazing, can see sidewise, both to right and to left, over a wide expanse of ground. A horse's eyes, also, are placed prominently up and out on the corners of its head so that it can aim a kick at a wolf—the horse's natural enemy—without turning the head.

All eyes that shine in the dark do so by virtue of a concave reflector behind the retina. The purpose is to enable the animal to see better in the dark. The little light that is stirring in the outer world enters the pupil, passes through the transparent retina which utilizes this light for vision, and on to the reflector, which sends it back to the same object from which it came. Here it is joined to the fresh, original light from the object, and the same process is repeated. Thus the carnivora and some other animals, whose vision is very much poorer than ours by day, see much better at night. And that is why primitive man lived in great terror of the dark. He was eater by day, eaten at night.

All the primates have strong focusing muscles.

In all the monkeys and apes the eyes, just as in men, can both be converged on the same point, and stereoscopic vision thus obtained—but not very long maintained. Only in man, of all the mammals, does there seem to be a continuous binocular and stereoscopic vision. Even in the human child, however, the eyes do not as a rule move in perfect unison with each other till about three months after birth, because stereoscopic vision, in the history of life, is an extremely recent appearance. This explains the ready loss-of-binocularity (cross eyes) in many persons as the result of eye-strain.

Whenever our eyes are in motion they are stone blind, excepting only when they move without changing the point at which they look. Anyone can easily convince himself of the truth of this statement. Let him stand before a mirror and look at the image of one of his eyes. Let him look first at the right side of that eye, then at the left side of the same eye, and then back again. Never, so long as he lives, will he see his eye in motion. The reason is that, just as soon as an eye begins to move, it is blind. We are never conscious of the blind interval, partly because the picture which is last seen before the eye begins moving persists in the sight-center of the brain and thus laps a little over the interval during which the retina is blind. But the chief fact is that the retina, by means of its motion blindness, gets minute intervals of rest with very great frequency all through our waking hours. In this way, too, the blurry and therefore useless pictures which we should receive if the eyes saw while in motion are avoided.

One peculiar thing about man's eyes, dominancy and serviency, is not found in the eyes of animals. In all mammals the eyes are *two* little cameras, each producing a tiny picture, but in the brain of man only one composite or stereoscopic picture is seen. The unique feature about the vision of a man is that the two eyes do not contribute equally to the formation of this single picture. In a right-handed person the right eye contributes practically all of the picture, in a left-handed person the left eye. In other words the right eye is almost invariably the window the brain looks through, with the left eye merely adding a little accessory information. When the right eye is closed, the left eye promptly extends its visual fields to the normal limits of the right. To test whether or not you have dominancy and serviency in your eyes, look at a tiny spot in the wall at a distance of a few feet. Next, while still looking at the spot, take a finger-ring and hold it where you will be looking through it. Then close your left eye, and see if you still see the spot through the ring. If you are right-handed, you will. Next close your right eye and look at the spot with your left and you will see it outside the ring. If you are left-handed, the result will be reversed.

Dominancy and serviency in eyes, like right-handedness and left-handedness, have come into the world very late. In no animal, so far as I have been able to learn, is there any such thing as handedness or eye-dominancy. This peculiar state of affairs is producing a condition which will eventually result in consequences of vast importance. As one result, I believe that in the course of countless ages man's two eyes will come closer and closer together, the bridge of the nose will diminish and sink, and finally at the spot where the bridge of the nose now appears there will stand one large, cyclopean eye. This single, central eye will regain stereoscopic vision just as many birds have stereoscopic vision in each eye now. Although the field of view will then be narrower than now, the eye will probably be both miscroscopic and telescopic; and, finally, most important of all, it will probably be able to perceive as light many forms of energy which now produce in human eyes no sort or kind of perception.

Concrete and Water Cement Ratio

(Continued from page 78)

gregate, and the sand in turn loses its cement and water, resulting in porous places, also areas where there is insufficient cementing material. When concrete is deposited in too heavy a mass, the water rises to the top and the concrete at these points is weakened the same as though too much water were used in mixing. Concrete should not be allowed to fall more than a few feet and should be spaded the minimum amount.

Bulking, or swelling of aggregates, especially the sand, should be considered when making the field mix. Sands when wet and loose, will bulk as much as 25 per cent above the volume when dry and rodded. There is a tendency to get too little sand unless allowance is made for this bulking. The bulking may be determined by measuring the quantity of moist sand and again measuring its smaller volume when it has been dried out, and tamped by rodding. The resulting loss in volume divided by the final dry-rodded volume, and multiplied by 100, will give the per cent of bulking. The per cent of bulking with gravel is small, and may, for practical purposes, be neglected.

In conclusion, I will state that less water in mixing and more water in curing will produce better concrete.

"Going to a fire?" asked the traffic officer sarcastically to the speeding motorist.

"W-well, not exactly," answered the motorist. "Just trying to prevent one."

"Yes, and how were you going to do that?"

"Well, the boss said that's what he'd do if I were late again, and I was hurrying to get to the office in time."

What in heck would you give a Nudist for Christmas?

Official Birds Selected by Nearly All the States

THE TOMTIT, ADOPTED BY NORTH CAROLINA, JOINS THE FEATHERED COMPANY CHOSEN BY POPULAR BALLOT.

BY FORMAL action of the State Legislature the tomtit, or Carolina chickadee, recently became the official bird of North Carolina. This year has seen Indiana also adopt an official bird—the Eastern cardinal. Only four States—Connecticut, Iowa, New Jersey and Tennessee—remain without feathered representatives. Even the District of Columbia has chosen the wood thrush, though the official bird of the national government is by tradition the bald eagle.

The birds honored by the States are selected for their beauty, their pleasing songs, their economic value, their traditional associations. For instance, Utah's bird, the gull, was chosen as a reminder of the time when it saved a crop from insects in 1848. Alabama adopted the flicker, or "yellow hammer," because her soldiers in the Confederate Army were known as "yellow hammers," from the color of their cavalry uniforms. New York wavered between the robin and the bluebird; after a campaign many years ago the robin was chosen; but in 1927 the question was revived and the bluebird came first.

Many of the States have picked the same bird. No less than seven favor the western meadowlark; three have selected the mockingbird and three others have chosen the cardinal.

In most instances campaigns for State birds were directed by women's clubs. Ballots with the names of favorite birds were drawn up in each State and were circulated as widely as possible in order to get a representative judgment. Then, when the people had decided, bills were introduced in the Legislature to make the choice official. This general procedure was varied in some States, where tradition had settled the selection of an official bird long before the present campaign got under way.

The list of birds thus far chosen by the States is as follows:

Alabama	Flicker
Arizona	Cactus Wren
Arkansas	Mockingbird
California	Valley Quail
Colorado	Lark Bunting
Delaware	Cardinal
District of Columbia	Wood Thrush
Florida	Mockingbird
Georgia	Brown Thrasher
Idaho	Mountain Bluebird
Illinois	Cardinal
Indiana	Eastern Cardinal
Kansas	Western Meadowlark
Kentucky	Cardinal
Louisiana	Brown Pelican
Maine	Chickadee
Maryland	Baltimore Oriole
Massachusetts	Veery
Michigan	Robin
Minnesota	Goldfinch
Mississippi	Mockingbird
Missouri	Eastern Bluebird
Montana	Western Meadowlark
Nebraska	Western Meadowlark
Nevada	Mountain Bluebird
New Hampshire	Purple Finch
New Mexico	Road Runner
New York	Eastern Bluebird
North Carolina	Carolina Chickadee
North Dakota	Western Meadowlark
Ohio	House Wren
Oklahoma	Bob White
Oregon	Western Meadowlark
Pennsylvania	Ruffed Grouse
Rhode Island	Bob White
South Carolina	Carolina Wren
South Dakota	Western Meadowlark
Texas	Western Mockingbird
Utah	California Gull
Vermont	Hermit Thrush
Virginia	Robin
Washington	Willow Goldfinch
West Virginia	Tufted Titmouse
Wisconsin	Robin
Wyoming	Western Meadowlark

The value of selecting a State bird has been summed up by Katharine B. Tippetts, of the General Federation of Women's Clubs, which has been the directing force in the campaign. "The mere fact that these bird emblems have been chosen," she wrote, "is not important so far as the emblem itself is concerned. What is significant is that which led up to the selection; the discussion, study and thought that it required, the very real educational service that it performed. And the result is that affectionate interest has been thus aroused in all birds and their protection."

Pat and Mike were detailed for scout duty overseas. The commanding officer ordered them to conceal themselves in a cow's hide and pretend to graze over toward the German trenches, making careful observations. Pat was given the front legs and Mike the hind legs.

All went well for a time. Then Pat received a violent prod from the rear. "Come on, let's get out of here," hissed Mike.

"What's the matter?" queried Pat.

"Matter?" snorted Mike. "Here comes a German with a milk pail.

Mr. Gadget: "What is the most pathetic picture in the world? "

Ditto: "A horse fly sitting on a radiator cap."

When Wong Talked to the Mules

IN LAST month's Magazine, an account was given of the mules talking to Wong. This month I shall give the story of Wong talking to the mules.

The mule has always been preferred for mine work on account of its agility and its ability to take care of itself in a tight place, something which a horse does not seem able to do. The mules purchased for mine work were largely bought in Kansas City and were all eastern or midwestern bred. being tractable and gentle.

On one occasion a number of western mules were purchased, and they proved real "Wild Western" Jackasses; so much so that it was difficult to get near them. Indeed, it was dangerous to do so.

To Wong was given the duty of taking care of them during a probationary period before they were put in the mines.

The first thing he did was to attach a fifty-foot length of rope to the halter of each and give them the run of the corral, and all that was necessary when he desired to take them into the stable was to reach down and pick up the ends of the ropes. This kept Wong at a safe distance from flying heels and vicious teeth.

Once in the stalls, the problem was, how to hitch and unhitch them, but Wong solved this by making a hook with a long handle, whereby he was enabled to stand a respectful distance and accomplish this.

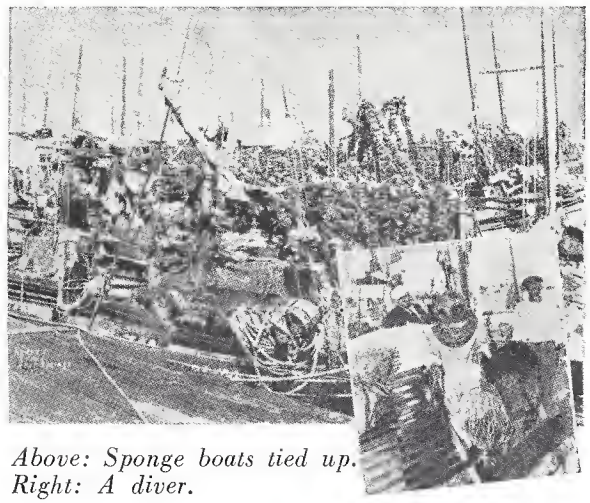
On one occasion while engaged doing this, another employe heard Wong paying his respects to all of these mules, his conversation running as follows:

"I no likee you, you heap clazy mules. You no got sense. Bossie man I think so not got muchee sense buyum you. He talkee he pay one hundled twenty-five dollah one mulee. I no pay five cent allee bunch. Bossie man pay heap money for you; you catchee too muchee chow chow; you likee sleep corral all day; you no likee work. I think so you pletty smart mulee. You foolee bossie man too muchee."

On one occasion, as Wong was walking around the corral where the mules were feeding, he noticed one which did not drink much water. Picking up the end of the trailing rope, he wound it round a post in the vicinity of the watering trough, and snubbing the mule's head down to the water, endeavored to make it drink. In this, he was unsuccessful; the only response that he obtained was a series of vicious snortings from the mule. Wong, however, persisted in his efforts, remarking, "You clazy mule! What's the matter you? What's the matter you no eatum water?"

The Sponge Industry

The commercial sponge is really the skeleton of an animal that has adhered to some marine formation in or on the bottom of the sea. They are chiefly taken from the Gulf of Mexico and the Straits of Florida in depth of from 10 to 130 feet, extending from one to 50 miles from shore.



Above: Sponge boats tied up. Right: A diver.

The center of activity is at Tarpon Springs, Florida, where a sponge fleet of 80 boats are manned by 500 men. The crew consists of a captain, engineer, life-line tender, cook, two or more deck men and the divers. Diving in diving suits is regularly practiced in the Gulf waters and the majority of sponges are secured in this manner.

The sponge as we know it is dark grey in color. The commercial color is obtained by bleaching. The catch of sponges are sorted for quality and size and placed in a cooperative warehouse, awaiting the buyers' bids. The sponge receipts for a year totals nearly a million dollars. This industry is conducted entirely by Greeks.

—*From the Columbian Crew.*

A man with a little black bag knocked at the front door.

"Come in, sir, come in," said the father of fourteen children, "and I hope to goodness you're a piano tuner."

Abie and Sarah took little Isadore to the pictures. The attendant warned them that unless the child kept quiet they would have to leave and get their money back. Halfway through the principal film Abie turned to Sarah and whispered, "Vell, vot do you tink of it?"

"Rotten," replied Sarah.

"Yes," answered Abie. "Pinch de baby."

Young Jimmy was pushing his baby sister's perambulator down the street.

"Hey, Jimmy," called his buddy from across the street. "do you get paid for that?"

"Naw," replied Jimmy disgustedly, "this is a free wheeling job."

Statisticians have figured out that at the age of 85, there are seven women for every four men, but of course, by that time it is too late!

Community Council Activities

IN SPITE of the depression, the work of the several Councils has been carried on most admirably during the year; splendid amusement has been furnished by the Councils, they have been active in all community enterprises, and have done a great deal of relief work.

The financial standing of each Council is herewith given, as well as a list of the officers. In some cases the old officers were re-elected on account of the good work accomplished. It is pleasing to note that Reliance has been quite active during the year and their results are well in line with those of the other Councils.

RECEIPTS AND EXPENDITURES ROCK SPRINGS COMMUNITY COUNCIL

Year Ending December 31, 1933

RECEIPTS

Balance on Hand, January 1, 1933	$ 370.69
From The Union Pacific Coal Company.	320.00
Impurity Docks	1.76
Card Parties and Dances	134.97
Boy Scout Card Party and Dance	55.10
Refund on Christmas Party Supplies	18.50
Interest on Certificate	8.00
Carnival Dance	84.00
Donations from Boy Scouts	10.00
Receipts from First Aid Banquet	60.00
Receipts from Ball Park	15.00
Band Concert and Dance	141.10
Membership Dues	32.50
Donations from U. M. W. of A.	25.00
Total	$1,276.62

EXPENDITURES

Relief	$ 94.96
Equipment	64.10
Donations to Boy and Girl Scouts	70.40
Supplies for Banquet	31.31
Stationery	11.80
Supplies for Dances and Card Parties	118.56
Government Tax on Amusements	5.50
Advertising and Programmes	64.20
Music for Dances	130.50
Refrigerator	110.00
Christmas Party for Children	143.62
Donations to No. 4 Community Band	42.05
Miscellaneous	20.09
Balance on Hand December 31, 1933	369.53
Total	$1,276.62

OFFICERS FOR THE YEAR 1934

President.....Mr. T. J. O'Farrell
Vice-President.....Mrs. Caroline Lloyd
Secretary.....Mr. Thomas Cook
Treasurer.....Miss Anna Corneliussen

RECEIPTS AND EXPENDITURES RELIANCE COMMUNITY COUNCIL

Year Ending December 31, 1933

RECEIPTS

Balance on Hand, January 1, 1933	$ 216.47
From The Union Pacific Coal Company.	240.00
Dances	85.90
Card Parties	30.40
Other Sources	41.00
Total	$ 613.77

EXPENDITURES

Supplies and Equipment	$ 31.35
Supplies for Card Parties, Lunches, etc.	193.35
Refinishing Dance Floor	20.65
Donation to Girl Scouts	5.00
Flowers for Sick	5.18
Contribution to Reliance Senior Class.	23.00
Donation for Relief	95.22
Donations to Families (Cash)	43.00
Christmas Baskets to Families	24.20
Clothing and Toys for Christmas	29.96
Contribution to Reliance Sunday School	10.00
Lease on Bungalow	1.00
Miscellaneous	9.15
Balance on Hand December 31, 1933	122.71
Total	$ 613.77

OFFICERS FOR THE YEAR 1934

President.....Mrs. J. E. Rafferty
Secretary-Treasurer.....Mrs. Mary Fearn

RECEIPTS AND EXPENDITURES WINTON COMMUNITY COUNCIL

Year Ending December 31, 1933

RECEIPTS

Balance on Hand January 1, 1933	$ 470.06
Time Deposit	368.38
Interest on Time Deposit	14.74
From The Union Pacific Coal Company.	240.00
Donations for Relief Fund	10.00
From Local Union No. 3830 for Christmas Treat	130.00
From Monthly Men	17.00
Card Parties	61.93
Total	$1,312.11

EXPENDITURES

Contribution to Scouts	$ 10.87
Supplies for Card Parties	50.00
Relief Work	39.43

Playground Equipment for School Grounds	376.60
Donation for School Picnic	20.00
Donation for Christmas Treat for Children	223.40
Expense for Free Community Dance	15.00
Miscellaneous	.81
Balance on Hand, December 31, 1933	576.00
Total	$1,312.11

OFFICERS FOR THE YEAR 1934

President.....Mr. H. T. Lunn
Vice-President.....Mr. Dan Gardner
Secretary-Treasurer.....Mrs. Thomas Dodds

RECEIPTS AND EXPENDITURES SUPERIOR COMMUNITY COUNCIL

Year Ending December 31, 1933

RECEIPTS

Balance on Hand January 1, 1933	$ 199.50
From The Union Pacific Coal Company	240.00
Rentals from Club House	38.00
Miscellaneous	1.00
Total	$ 478.50

EXPENDITURES

Care of Club House	$ 120.00
Lecture Course and Entertainments	154.80
Music	32.40
Contribution to Boy Scouts	13.00
Miscellaneous	6.73
Balance on Hand December 31, 1933	151.57
Total	$ 478.50

OFFICERS FOR THE YEAR 1934

President.....Mr. L. E. Harris
Vice-President.....Mrs. W. H. Richardson
Secretary-Treasurer.....Mr. James H. Haueter

RECEIPTS AND EXPENDITURES HANNA COMMUNITY COUNCIL

Year Ending December 31, 1933

RECEIPTS

Balance on Hand January 1, 1933	$ 207.50
From The Union Pacific Coal Company	270.00
Hanna Business Men	25.50
Pythian Sisters	10.00
Women's Eagle Lodge	3.00
Moose Lodge	5.00
The Rosary Society	2.50
United Mine Workers of America	60.00
Knights of Pythias	10.00
Union Pacific Railroad Employes	6.00
Hanna State Bank	5.00
American Legion	5.00
Hanna School Teachers	12.50
Methodist Ladies Aid	5.00
Monthly Men of The Union Pacific Coal Company	16.00
Rentals	107.94
Total	$ 750.94

EXPENDITURES

Supplies for Socials	$ 36.74
Printing and Other Supplies	40.58
Expense for Socials	19.94
Donations to Cemetery Association	80.00
Donations for Music Week	2.00
Donations to Sick and Indigent Families (Relief)	125.00
Supplies for Christmas Party for Children	200.30
Equipment and Upkeep of Building	75.55
Miscellaneous	4.00
Balance on Hand December 31, 1933	166.83
Total	$ 750.94

OFFICERS FOR THE YEAR 1934

President.....Mr. Charles Thompson
Vice-President.....Mr. John H. Crawford
Secretary.....Mr. Peter Owens
Treasurer.....Miss Annie Van Renterghen

Some Epitaphs for Motorists

Suggestions may be gathered from the epitaphs quoted below for those who have had friends or acquaintances removed unceremoniously by means of various auto accidents:

At fifty miles drove Allie Pidd;
He thought he wouldn't skid, but did.

*

At ninety miles drove Eddie Pepton;
The motor stopped, but Eddie kept on.

*

Here he sleeps, one Johnny Shawn:
He rounded a turn without a horn.

*

Down in the creek sleeps Jerry Bass;
The bridge was narrow, he tried to pass.

*

Here lies the body of William Jay,
Who died maintaining his right-of-way.

*

Here's all that's left of "blind away" Harry;
At the railroad crossing he did not tarry.

*

John William Jones lies under this thistle;
He didn't heed the engine's whistle.

SAD MISTAKE

Disagreeable Old Gentleman: "And this, I suppose, is one of those hideous caricatures you call 'modern art'."

Art Dealer: "No, sir. That's just a mirror."

» » Of Interest to Women « «

Protective Foods Are Needed in Winter-time

Lack of the right variety of foods in winter frequently affects our health in the spring. Fruits and green leafy vegetables, with their vitamins, their calcium, iron, and other mineral salts, are among the important protective foods. Although just as necessary when out of season, they cost more and are therefore often omitted if the income is reduced.

For the limited food budget, the Bureau of Home Economics of the United States Department of Agriculture points out the following possibilities in the winter market:

Cabbage heads the list for protective values. It is stored for winter use, it is always cheap, and it is served raw or cooked in many ways.

Turnips and collards can be had most of the year in mild climates. Spinach is cheap in some localities, and so is kale.

Potatoes and sweet potatoes are high in protective value. Irish potatoes furnish vitamin C, sweet potatoes vitamins A and C. Yellow turnips and carrots are rich in vitamin A. Dried beans and peas supply minerals, vitamins, and protein.

Tomatoes, canned or fresh, rank with cabbage and other green leafy vegetables as protective foods. Their vitamin value is about the same as that of oranges and grapefruit. Canned tomatoes and tomato juice may be used when fruit is scarce.

The citrus fruits—oranges, tangerines, grapefruit, lemons—are rich sources of vitamins. Raisins, prunes, and dried apricots are especially important for their iron. Among the cheaper canned fruits, peaches and pineapple retain much of the food value of the fresh fruit.

Do not fail to eat vegetables and fruits as regularly in winter as in summer, says the bureau. The more limited the family purse, the more uneconomical it is to spend food money for a one-sided diet, too heavy with breads, cereals, fats, and sweets, and lacking in vegetables and fruits.

Children's Colds

DR. MORRIS FISHBEIN, editor of the American Medical Association Journal and of Hygeia, the Health Magazine, recently disseminated the following article on protecting the children from colds:

Winter calls upon you, as a parent, to protect your child against all sources of colds, and protect other children against your child when he happens to have a cold.

Ordinarily, winter is just about as healthful a season as any other, if you know how to practice the simple rules of hygiene and exercise common sense in their application.

You know, of course, that exposure may harm the human body and you can, in most cases, guard against it. A diet sufficiently rich in calories will provide warmth for the body, which is more necessary in winter than in summer.

You know, also, that the common cold is more frequent in winter than in summer. That's because of artificial heating, wrong clothing and other physical factors which can be brought under control.

* * *

We do not know definitely the chief cause of a cold. It is, no doubt, a germ not yet found. But we do know that contributing factors include the presence of someone who has a cold, and a reduction in general resistance of the body which permits germs to get in their vicious work.

The child in school is exposed constantly to meetings with people who have colds and who do not worry much about distributing them to others. Responsibility of eliminating such children rests on school teachers, as well as on school nurses and school physicians.

The greatest responsibility, however, rests upon you, the parent, who should not permit your child to go to school if he has a cold.

In addition to the contacts made in school, the child is likely to be exposed in crowded vehicles and motion picture houses. The best care that can be given to a child under such circumstances is to put him to bed until he is well enough to get about.

Enough has been said about consumption of proper food and proper elimination for good hygiene, to make parents realize that, in times of excessive strain on the body, these factors are especially important.

There is a tendency in winter either to take too little exercise or too much. Some parents coddle their children in winter so that the child spends all his time indoors. Other parents, with a view to hardening the child, insist on his shoveling snow and messing about in the dampness.

Here again reason is the right attitude. A suitable amount of outdoor air, with the surety that the child is well covered, that he does not remain wet out in the cold, is a well-worth-while stimulus to lungs and circulation.

For those children who have frequent colds, and especially for those with infection in the sinuses, swimming should be forbidden in the winter in any kind of indoor pool.

To Children Every Meal Counts Much, Says Specialist

"When school children are hungry at 10:30, hungrier at 11 and tired and irritable at noon, it doesn't take a wizard to tell that they got up late that morning and hurried off to school before breakfast was half over," says Miss Inez Hobart, extension specialist in nutrition, University farm, St. Paul.

"Every meal is important for a child. It should represent one-third of the day's food supply. See that the meals are not only appetizing, nourishing and ready on time, but that they are also pleasant, comfortable and unhurried.

"Breakfast should include a fruit or tomato juice, hot whole grain cereal, such as oatmeal or cracked wheat, a breadstuff, butter, cream and milk. If breakfast must be very early, include an egg. The cream, butter and bacon take longer to digest, but 'stay by' longer than the starchy foods, and therefore play an important part in the first meal of the day."

A Few Recipes

"Apple Crisp"

THERE is an old saying "an apple a day keeps the doctor away." Though this may not be true, apples do go a long way in helping to put variety and palatability into the diet. The pleasing flavor, attractive color, crispness when bitten makes apples a popular fruit through many months of the year. At this season we find them being served in a great variety of ways. "Apple Crisp" will be popular with the family and is quickly made. To do it, place sliced apples in a baking dish. Add ¼ teaspoon nutmeg, ½ cup water and ⅓ cup sugar. Mix together ¾ cup flour, 1 cup sugar and ½ cup butter, until a crumbly mass is formed. Sprinkle over the apples and bake.

Gingerale Salad

Soak 2 tablespoons gelatine in 2 tablespoons cold water and dissolve in ⅓ cup boiling water. Add 1 cup gingerale, ¼ cup lemon juice, 2 tablespoons sugar and a pinch of salt. Let stand until mixture begins to set and fold in ⅓ cup Malaga grapes, skinned, seeded and halved, ⅓ cup chopped celery, ⅓ cup chopped apples, 2 tablespoons Canton ginger cut in small pieces and 4 tablespoons shredded canned pineapple. Turn into a ring mold to stiffen. Chill and when ready to serve turn out on a bed of watercress or crisp lettuce. Fill the cavity of the mold with a dressing made of mayonnaise combined with 1 cup of whipped cream.

Cream Washington Pie

One-half cup sugar, ½ cup milk, 1 cup flour, 2 eggs, 2 tablespoons melted butter, 1 teaspoon baking powder. Cream butter and sugar together, add well-beaten eggs, then milk and baking powder combined and finally, flour. Bake in two layers in well-greased cake tins.

Cream filling: One cup rich milk, 1 egg, salt to taste, 2 tablespoons sugar, 1 heaping tablespoon flour. Heat milk in double boiler. Stir dry ingredients into well-beaten egg and stir into milk while boiling. Stir until smooth and creamy. Remove from fire and add vanilla. When cool spread between layers of cake.

Party Sandwiches

Blend two tablespoons of prepared mustard with one-half cup butter. To half this mixture add one-half cup chopped celery and to the other half add one-half cup minced ham. Spread these two mixtures on open-faced sandwiches and garnish with stuffed olives.

Mainly About Women

Mrs. Dorothy Lambert of Columbus, Ohio, has organized and coaches a football team consisting of members of her Sunday school class.

In India, women are very fond of their children. The mothers know nothing of modern child welfare and dietaries; their method of "correct feeding" is to tie a string around baby's middle and when the string is taut, he has had sufficient nourishment.

Mrs. Woodrow Wilson, widow of the late president of the United States and sole owner of Galt & Bros., 131-year-old jewelry firm in Washington, D. C., is liquidating the business. She inherited it from her first husband, Norman Galt, in 1908, eight years before she married President Wilson.

For the first time in France, a woman lawyer has been elected president of a bar association. Mme. Jeanne Pignet of La Roche Sur Yon, who has been practicing law since 1919, has just been chosen "batonnier" of the Order of Advocates, which is equivalent to a bar association. She is 44 years of age and has a son studying to be a physician.

Miss Esther Doody, 28-year-old star measurer of the Allegheny observatory in Pittsburgh, Pa., is a world recognized authority on a double-double star about 1,000 trillion miles distant from the earth. The quadruple star known as Epsilon Lyrae —or four stars—is located in the northern heavens in the same constellation as the bright star Vega.

So successful has become the new school for prospective brides in Tokio, Japan, that a marriage bureau for students is to be opened.

The application of paint and powder has been barred from the freshman class of the new college of liberal arts for women at the University of Pennsylvania.

In Turkey, from the earliest days of their education, women are now on an equal footing with men and are eligible for practically all the professions.

After being in existence forty-six years, the Fat Women's club of Harper, Kan., has disbanded. Modern styles caused members to reduce.

A saber duel was recently fought by Magda Fueloew and Mrs. Anna Zsarnoezay, two society women, at a fencing academy in Budapest, Hungary, as the result of a contract bridge argument.

Mrs. Florentine Goodrich of New York, who was recently appointed as treasurer for the Tennessee valley authority, is the first woman named to a key position in the TVA organization.

Having just completed her dental training in the United States, Senorita Augusta Montealegre has returned to her home town, Chinandega, in Nicaragua, where she will begin practice.

Household Suggestions

Slippery Silk

Pin a Turkish towel over the table end of the sewing machine to prevent the silk material from slipping off while stitching.

Window Cords

Include in your housecleaning a little attention to the window cords. They should be dusted and then rubbed with a well-greased rag. This will make them pliable and less apt to break with the constant friction. It also makes for easier window raising and lowering.

Wrinkled Patterns

If the paper pattern you are going to use is badly wrinkled by improper folding, press it out smooth with a warm iron before using. Many a garment has been ruined by using that sort of pattern.

Goodby to Summer

When packing away your white summer clothes in the fall, pack them in an old sheet or pillowcase that has been dipped into strong bluing. This will prevent their turning an ugly yellow during the winter months.

For Better Wear

Pin a safety pin through one corner of the summer rug before taking it up to change rugs for the winter. Then when it is put back next season see that the pin goes in the opposite corner. Then you are certain you have changed your rugs for better wear.

A Sweeter Stomach

If the housewife could only get out of that bad habit of eating things herself and urging the family to eat them just because there is too little left to put away she will find a better set of stomachs in the crowd. That extra food we do not want and should not eat is just too much for proper digestion.

Here's a Good Method for Washing Chiffons

Are you afraid to wash chiffon? There is no need for such fear. Hot water will take its color out if it has color, and in any event lukewarm water is better. Just dangle it up and down, with little muscular effort, in soapy water, rinse in clear lukewarm water and ring out gently. Spread out and when ready to iron do so on the wrong side.

Odds and Ends

Eggs should be washed off as soon as they come from the market.

Sweet biscuit will not rise properly if too much sugar is used.

The parings from five large apples will make one tall glass of apple jelly.

If your time is limited cut the vegetables into smaller pieces than usual; they will cook more quickly.

If your family considers squash a tasteless vegetable try serving it with a white sauce with melted cheese in it. They will change their minds.

Measurement Tips

Two good-sized cups are equal to one pint of liquid. Four cups of flour are equal to a pound, three teaspoons to a tablespoon, two cups of butter, two cups of granulated sugar or three cups of cornmeal is a pound. One cup of shelled nuts is equal to a quarter of a pound, sixteen squares of chocolate to a pound, five cups of coffee or four cups of cocoa to a pound.

Hot Cloths

When hot compresses are being used in case of illness the best way to do them without burning the fingers is to hold an end of the cloth in each hand and dip the rest in boiling water. Then quickly twist the cloth at the ends in opposite directions.

The meat loaf looks and tastes good when stripped over the top with bacon.

Remove the specks of green mold from the outside of the cheese; it will not affect the flavor of the inside in the least.

Chopped dill pickles mixed with cream cheese and a bit of pimento make an interesting sandwich. Spread between slices of rye bread.

Half lemon and half lime juice may be substituted for the vinegar in the French dressing for a fruit salad and will be found delicious.

» » » Our Young Women « « «

Fashions and Frills

Nineteen thirty-four is already ushering in some pleasing ideas from which one may gather that your new clothes give promise of being the kind one likes, especially the woman who pays attention to her appearance. Below are some of the features which will be introduced:

Day time dress with a shoulder covering.

On street dresses high necklines.

Two-piece jacket dresses, belted waistline, day use.

Ruffles on front of dress extending full length.

On some of the imported frocks, charming little sleeves extend ½ way between shoulder and elbow. fitting the top of the shoulder closely, so cut as to bell moderately below.

Reversible linen and wool materials are smart numbers for spring.

In dressy groups the low heeled shoe seems to be gaining ground abroad; "cut out" sandals and pumps are still favored for afternoons.

Untrimmed hats are succeeding those with feather decorations.

The Blues

Blue looks quite the proper thing in the spring merchandising horizon, navy being well to the fore on more formal coats also in fabrics that have the informal surface interest of tweeds for suits and sport coats.

Dark woolen suits and dresses should be tailored with white pique for trimmings and blouses.

For the business girl or the instructor of youth, hlue, black or brown silk dresses with white lingerie touches or checked taffeta trimming give promise of being very popular this spring.

Cooking and Sewing Class Started

On January 18, 1934, a night class for cooking and sewing was started. These classes are to he taught by Miss Bernice Keating, a graduate of Home Economics of the University of Idaho. Cooking will be taught every Wednesday evening from 7 to 9, sewing every Friday evening 7 to 9, until the twenty lessons shall have been completed. These classes are open to employes and members of their families, and are being sponsored by the Rock Springs Community Council and are held at the Community Building, opposite the Lowell School.

Miss Olga Carlson in Rock Springs

Miss Olga Carlson, of the Field Training Staff of Girl Scouts, was in Rock Springs and vicinity for several days during the month giving instructions in a course for Girl Scouting. Among the many who participated were Council Members, Troop Committee Members, Captains, Lieutenants and others. Miss Carlson made her headquarters at 124 L Street while in the city. A luncheon was held following the first day's class. Miss Carlson has visited Rock Springs in previous years and has just been covering Ogden, Salt Lake and other Western points.

On Monday evening, January 8, Mrs. T. S. Taliaferro, Jr., addressed the Girl Scouts of Nyoda Troop No. 1, at the Community Hall, Rock Springs, and told them how to be pleasing and charming hostesses. No one is more capable to give such a talk than the amiable lady mentioned.

Saint Valentine

The patron saint of the lovelorn will reign on February 14, yclept Saint Valentine. Your writer was about to state "will reign supreme," but upon consulting the 1934 Calendar it developed that February 14 will be Ash Wednesday, the first day of Lent, and thus was changed the entire aspect of things as menus and arrangements were almost ready to be typed looking to the large number of children's and grown-ups' parties and other affairs usually scheduled upon that occasion.

Teacher: Willie, you may explain to the class how we hear things.

Willie: Pa tells 'em to Ma as a secret and she tells them to the members of her bridge club as a secret and then they're broadcasted.

Landlady: "I'm sorry the chicken soup isn't good. I explained to the cook very carefully how to make it, but perhaps she didn't catch the idea."

Boarder: "It tastes to me as if it was the chicken she didn't catch."

Boy Caller: "Are you fond of indoor sports?"
Girl: "Yes, if they know when to go home."

She isn't my best girl. Just necks best.

» » » Our Little Folks « « «

How Ships Find Their Way

Most boys and girls know that when ships are out of sight of land the officers in charge find their way by the principles of navigation. Where waterways are difficult or tortuous, pilots are taken aboard to help to guide the vessels to their berths safely, but out in the open sea wonderful instruments guide the officers.

The British Admiralty has designed more than 2,600 charts showing the depths of the seas used by British as well as foreign ships. These charts show in great detail all the currents, channels, islands, and soundings at various points over the seas and oceans.

The sailor's greatest aid is the compass, which always points to the magnetic north. As many as six compasses are carried in a giant liner.

After marking carefully on the chart the point of departure from the land, a close watch is kept day and night.

With the help of a log line trailed after the ship, which twists around under the water, a rough idea of the number of miles travelled is obtained. This is known as the "dead reckoning."

A further check is kept by the sextant, which enables the position of the ship to be calculated from the sun and the stars.

A good chronometer is carried. This is an absolutely faithful timekeeper and every day at noon the position of the ship is worked out.

Ships at sea now make a "good landfall," as the sailors say, when they pick up the exact point of land just when they expect to see it, with the regularity of expresses on railways.

Jolly Jumps

JUMPING OVER A WALL AND DITCH

In cross-country running you often come across an obstacle to jump such as a low wall, a hedge, or fence, with a ditch on the other side. It is the kind of jump in which you have to get height as well as distance. Any low obstacle, such as a stool, a low rope, or a heap of sand will do for your "wall," and a marked-out space on the other side for the "ditch."

Get up a good speed and jump sufficiently high and hard to go well over both obstacles. If the distance is not too great a big stride will do, and you can run straight on. For bigger jumps you will have to land on both feet.

Finally, if you want to make a real test of your jumping powers, arrange a course including several jumps of varying lengths.

Rivers of the World

Are you good at geography?

If so you will be able to discover the names of the six famous rivers which are hidden in the following sentences:

The rivers are not English ones, but are known all over the world.

1. A game of tag uses up a lot of energy.
2. Can I let him go away, without saying goodbye?
3. I seem to lose in every game I play now.
4. Couldn't I be rushed over in a car?
5. Had our offer been sent in sooner, it would have been better.
6. If we miss our interval for rest we shall be sorry.

SOLUTIONS TO THE ABOVE

1, Tagus (Spain and Portugal). 2, Nile (Egypt). 3, Seine (France). 4, Tiber (Italy). 5, Douro (Spain and Portugal). 6, Missouri (America).

Noon is Always Noon

Whether you call it mid-day, 12 o'clock, lunch time or what, it is always NOON. There is no way of getting around it, NOON is always NOON. You can turn it upside down and—well, gosh, it is still NOON.

Can You Do This?

Can you sit on the floor with your knees bent well up so that your feet are flat on the floor close to your body and your toes point straight forward, then rise to the standing position without aiding yourself in any way with your hands? Try it!

Diplomacy as Practiced at Christmas

Little Bobby, the other day, assumed a knowing look and said to his father: "I'm awfully sorry to think how much trouble I make for mamma."

"She hasn't complained, has she?" the father asked.

"No," admitted Bobby, "she's very patient—that's just it. But she often sends me to the store for things and it's a good ways off and I guess she gets pretty cross waiting so long when she's in a hurry."

"Not often, I guess."

"Oh, yes, Daddy, she's nearly always in a hurry. She gets everything all ready for baking and finds at the last minute she hasn't any soda, or some-

thing, and then she's in an awful stew, and I can't run such a long distance, you know, and—I feel terribly sorry for her."

"What can we do about it?" asked the father.

"I was just thinking, Papa, that perhaps you might get me a bicycle."

Boy Scout Activities

Boy Scout News

THE 25th Anniversary of the Boy Scouts of America will be celebrated by the Boy Scouts of Sweetwater District at the new High School Auditorium in Rock Springs on the evening of February 8, 1934.

On our program, we are planning on having a few short talks from local men. Mr. J. I. Williams, of Evanston, former Field Boy Scout Executive of this District, has also been invited to give a talk on the History of Scouting in and around Rock Springs. It is hoped that a National Representative will be present also.

The February Court of Honor will be included in this program. Each troop has been asked to contribute one stunt as their part.

All Scouts, former Scouts, parents and friends are eordially invited.

On February 10, 1934, at 10 a. m., all Boy Scouts and former Scouts are requested to mobilize at the Number Four Community Hall in Rock Springs, for the purpose of hearing President Franklin D. Roosevelt's appeal to the Boy Scouts of America, over a nation-wide broadcast.

President Roosevelt will request the Boy Scouts of America to undertake an especial service which has a direct bearing on the relief situation. The nature of this service is not to be revealed until President Roosevelt broadcasts his request. Sealed instructions will be sent to all local offices in advance, telling Scout leaders how the Scouts are to set out on their work. But these instructions will not be opened until after the broadcast has been completed.

At the January Court of Honor, the Boy Scouts of this District were very fortunate in having three young men interested in doing Scout work come forward and offer their services. These young men have had a wide experience in Scout work in other districts.

The three young men are employed in Rock Springs by the United Air Lines, Boeing Air Transport. They are: Mr. Lee Cook, Mr. Chester A. Bruner, and Mr. Philip A. Hastings. Troop No. 167 of the Episcopal Church has reorganized with Mr. Cook as the new Scoutmaster and Mr. Bruner as Assistant Scoutmaster. Mr. Hastings is Assistant Scoutmaster of Troop No. 169.

Troop No. 172 of the L. D. S. Church has reorganized with Mr. Clarence Meacham as Scoutmaster. Mr. Meacham has had experience in Scout work before.

The new Reliance Troop has been started and at the first meeting had seventeen boys present. Every indication shows that Reliance will have a fine Troop of boys in the near future.

Scoutmasters and leaders have been holding meetings on Sunday afternoons for the purpose of completing the plans for our program on February 8, 1934.

Lord Baden-Powell III

Lord Baden-Powell, founder of the Boy Scout movement, recently underwent an operation in a London, England, hospital. His condition at last reports was quite favorable, but his physicians advised that he would be confined to his room in the institution for six weeks to two months. His many friends and his legion of well-wishers are all pulling strongly for his speedy recovery.

Sign on dance hall: Good clean dancing every night except Sunday.

News About All of Us

Rock Springs

Miss Margaret Timko has returned to her home here after having spent the past year in Basin for the benefit of her health.

Mr. and Mrs. Joseph Kudar are the proud parents of a baby son born on Thursday, December 7.

Clarence Meacham is at the home of his parents, Mr. and Mrs. D. E. Meacham, after having completed a two-year mission for the L. D. S. Church in the Northern states.

Thomas Butler, Jr., of Casper, spent New Years Day here with his parents.

Bert and Fred Adams have returned to the University at Laramie, after having visited here with their parents, Mr. and Mrs. John Adams, of the Barracks.

John Wilde underwent a minor operation at the Wyoming General Hospital.

Mr. Thomas Crofts is ill and is confined to his home at No. 6.

John and James Freeman were big-game hunting in Jackson. Each brought in an elk.

Miss Ella McLeod has returned to Denver after having visited here with her parents, Mr. and Mrs. Hugh McLeod.

Mr. and Mrs. Andrew Bok are the proud parents of a baby son born on Thursday, December 28.

Mr. and Mrs. Raino Matson visited at the William Daniels home in Winton.

John Retford, George Ward and Dwight Jones were called to Green River to serve on the jury.

Miss Joan Grivna has gone to Cleveland, Ohio, where she expects to locate.

Mr. and Mrs. Robert Outsen and small daughter, of Shoshone, visited here with relatives during the holidays.

Mr. and Mrs. Carl J. Carlson have returned from a short visit to Denver, Colorado.

Reliance

Mr. Merlyn Robertson and Miss Mildred Robertson returned to their home in Laramie after having spent the Christmas holidays with Mrs. Jane Robertson.

Billy Graham, small son of Mr. and Mrs. John Graham, is quite ill at his home with the measles.

Mrs. D. Baxter was called to Ogden, Utah, owing to the death of her father, Mr. J. C. Westergard. The community extends its sympathy. Mr. Westergard was 88 years old at the time of his death.

Mr. and Mrs. Chester Roberts, formerly of Rock Springs, are now making their home here.

Jack Easton, son of Mr. and Mrs. John Easton, has been quite ill with tonsilitis.

Many men are now at work making a place for a playground at the school house.

Miss Lois Baxter spent several weeks in Ogden, visiting with relatives.

Mrs. George Flew spent several days visiting at the William Wardlow home in Sweetwater.

Mr. A. J. Bevola has returned from a visit in California. He was accompanied home by his daughter, Betty. Mrs. Bevola and two children will return here soon.

Mrs. Hugh Harrigan entertained at a dinner in honor of her mother, Mrs. Ellen Williams, the occasion being Mrs. Williams' birthday. Dinner was served at the R. Dupont home after which the party returned to the Harrigan home where Bunco was played.

Mrs. Floyd Roberts spent several days visiting at the home of her mother, Mrs. Hugh Kelley.

Mrs. James Partington and daughter, Joanne, of Rock Springs, visited at the A. L. Zeiher home.

Mr. and Mrs. Clarence Holmes and son, Rockney, visited at the John Holmes home here during the Christmas holidays.

Winton

A public card party was sponsored by the Woman's Club, January 16, 1934. A good crowd was present and all report a very pleasant evening.

Mr. and Mrs. Leslie Benson are the proud parents of a baby boy born January 5, 1934. Mother and baby are getting along fine.

Mr. James Kitching, who was called to England by the fatal illness of his mother, has returned to Winton after a long visit there with relatives.

The Altar Society held its regular monthly business meeting at the bome of Mrs. Harry Warinner. Following the business meeting, cards were enjoyed by those present and a nice lunch was served. Mrs. Marceau won first prize at cards.

Mr. and Mrs. O. G. Sharrer, of Hanna, Wyoming, spent New Years Day at the home of J. R. Mann, here. Miss Jeanie Mann returned to Hanna with them for a short visit.

Mrs. Hans Madsen returned to Winton from Denver where she had been visiting with friends and relatives.

Mr. and Mrs. Bryson and son, Billie, were visitors at the Foster home.

Mr. and Mrs. Albert Hornsby entertained in honor of Mr. James Kitching, who has just returned from England. Dancing was enjoyed and a nice lunch was served.

Mr. and Mrs. Pete Henderson are the proud parents of a baby girl born January 13, 1934.

Mrs. Lucas, of Hanna, Wyoming, is visiting at the home of her daughter, Mrs. William Lowe.

The Afternoon Five Hundred club was entertained by Mrs. Evan Reese, January 10, 1934, a delicious dinner being served before the card games. Mrs. Jack Hogan won first prize and Mrs. Harry Warinner second.

Mr. and Mrs. Jack Hogan and family were dinner guests of Mr. and Mrs. Bert Robings, of Dines.

Miss Anna Motichka of Lyman, Wyoming, is visiting at the home of Mr. and Mrs. S. Tynsky.

Superior

Mrs. B. F. Zaring has visited for the past month at the home of her mother in Florence, Colorado.

Mrs. T. H. Butler and daughter, Mrs. Russell Sholl, of Rock Springs, visited at the home of Mr. and Mrs. J. McLennan recently.

Mr. and Mrs. James Kirk recently made a week-end motor trip to the home of Mrs. Kirk's brother, Jack Stephenson at Dixon, Wyoming.

Mrs. John Ropicky and son of Cudahy, Wisconsin, arrived to join Mr. Ropicky who has recently been employed by the company.

Mrs. Archie Smith visited during the month at the home of her brother, Mr. William Higgins, Rawlins.

Mr. and Mrs. Clement Moore have moved to Denver where Mr. Moore has secured employment.

Miss Lydia Maki, who is teaching in Big Piney this year, visited recently with relatives and friends in Superior.

William Barwick left for Casper where he will spend the winter.

Josephine Rizzi of Ogden has been renewing friendships in Superior.

Mr. and Mrs. George L. Girard enjoyed a visit from Mrs. Girard's father, Mr. Bell of Pocatello, Idaho.

The American Legion dance given at the Union Hall, December 16, was a great success. Everyone in attendance reports a good time.

Mr. and Mrs. Charles Dean are enjoying a visit from Mr. Dean's mother, Mrs. Martha Dean of Cokeville, Wyo.

Mr. and Mrs. H. L. Levesque spent Christmas with Mr. and Mrs. John Nagle and family of Lewiston, Idaho.

Hanna

Miss Elizabeth Freeman and Alex Pascoe were married at Rawlins on December 27. The bride is the eldest daughter of Mr. and Mrs. William Freeman, of Hanna, and the groom is the grandson of Mrs. Mary Tennant of Sailor Creek.

Mr. and Mrs. Robert Morris and family and Mrs. Jean Massey motored to Parco on New Years Day and had dinner with Mr. and Mrs. Scott.

William Clegg and his basketball team from Aberdeen, Idaho, motored to Hanna on January 9, and played the Hanna High School team. The score was 33 to 11 in favor of Hanna. A Mixer was enjoyed after the game at the Community Hall put on by the staff of the Pioneer.

The Hanna High School Booster Club engaged in a contest selling season tickets to the basketball games. Evelyn Worsley was captain and Virginia Wilkes, lieutenant of one side and Betty Crank, captain, and Flossie Bedford, lieutenant of the other side. Miss Worsley's side lost and they gave a party to the winning side at the Community Hall on Tuesday, January 16.

The basketball game between Casper and Hanna High School teams on Thursday, January 11, was an exciting game. Hanna was victorious, the score being 28 to 20.

Mrs. Helen McAtee of Rawlins visited here with her daughter, Mrs. William Moffit.

The Pythian Sisters gave another of their delightful dances at the Community Hall on Friday, January 12. Out of town people who attended were Mr. and Mrs. Guy Farrens, Mr. and Mrs. Harry Rafferty, Nancy Cromwell, Ione Ridgeway, and Fred Rice of Casper, Mr. and Mrs. Littrel, Mr. and Mrs. Laurence, Mr. and Mrs. Riley and daughter, Mr. and Mrs. Edward Mumm, Mrs. Julio, and Mr. Chapman and daughter of Rawlins.

The marriage of Mildred Bailey and Stanley Crank was solemnized at the Episcopal parsonage in Rawlins on December 15. The ceremony was read by Dean Kraft. Their attendants were Miss Betty Crank, sister of the groom, and Howard Bailey, brother of the bride.

Mrs. Beatrice Watson is convalescing from an appendicitis operation performed at the Hanna Hospital.

Mrs. Bert Woodward, of Salt Lake City, is visiting here with her brother and sister-in-law, Mr. and Mrs. Frank Rider.

Miss Hilda Malmberg of Los Angeles, Cal., visited here with her mother, Mrs. Alfred Pollari.

Mr. and Mrs. Herbert Veitch are the proud parents of a baby girl born January 2. She will be named Nancy Arlene.

Mrs. Joseph Lucas accompanied her granddaughter, Donna Rogers, to Winton, where she will visit for a week with her daughter, Mrs. William Lowe.

Mrs. Dunn of Cokeville is visiting here with her daughter and son-in-law, Mrs. and Mr. John Lee.

Mr. and Mrs. Harry Lyons are receiving congratulations on the arrival of a baby girl born on January 5. She will be named Lois Ann.

The Knights of Pythias and Pythian Sisters held joint installation of officers at the lodge hall on Friday, January 5.

Mr. and Mrs. William Hapgood and family and Joseph Rogers who has been visiting his grandparents, Mr. and Mrs. Joseph Lucas, motored to Winton on New Years Day.

Miss Agnes Amoss entertained at a 6 o'clock dinner at her home on December 29. Her guest list included Misses Marie and Dorothy Grooman, Dorothy Benedict, Ellen Edlund, Bertha Hakala, Margaret Buehler, Marian and Bessie Hinek, Marian Milliken, Margaret McClelland, Doris Sherratt, Leona and Muriel Russel and Messrs. Albert Edlund, Jack Crawshaw, Virgil Thomas, Jack Lee Jr. and William Raite.

Miss Euphemia Boam is visiting with friends in Superior.

The Office Broom

Mr. Jack Smith spent ten days in Southern California with his mother at Christmas time. While away he witnessed the Columbia team win its contest from Southern California to the tune of 7 to 0. He also saw the damage inflicted on several districts surrounding Los Angeles by torrential rains and stated it was truly appalling.

AREN'T WE ALL

"And what parable do you like best, my friend?"
"The one about the multitude that loafs and fishes."

QUESTIONNAIRE

Teacher: "Can you give for any one year the number of cigarettes smoked by you?"

Student: "Certainly—1870—None."

Mr. Floyd Roberts, several years ago Manager of Company store at Reliance, is now in charge of the Government Rooming House located in the No. 4 Boarding House, Rock Springs.

Mr. Frank McCarty, former Superintendent of Mines at Rock Springs, now resides at 2718 Brinker Avenue, Ogden.

Another former official of the Coal Company, Mr. Fin. P. Gridley also lives at Ogden, his address being 332 30th St.

A letter just to hand from a relative in Hungary states bananas are unobtainable there, the Government not permitting money to be sent out of the country with which they might be purchased. Members of his hockey team recently visited Prague to play a game and brought back six dozen with them.

CIVILIZING THE NATIVES

Explorer has discovered an African tribe of men who beat the ground with sticks as a sign of anger.—News Item.

Well, well! Fancy golf spreading to equatorial Africa.

Now WHAT!

GOOD NEWS *for* THE PEOPLE *of* OUR COMMUNITY

IT'S HERE--

SLICED BREAD

● Baked fresh every day. Made from Occident Flour, Fleischmann's Yeast, whole milk and lard.

●

NO . . .
ADVANCE
IN PRICES:

Fluffy white long loaf . . .	still 8 cents 2 for 15 cents
Popular Twin loaf	10 cents
Big Sandwich loaf	still 10 cents
French Vienna style	only 10 cents
Rye Bread	10 cents
Whole Wheat	8 cents

FOR SALE BY

THE UNION PACIFIC COAL COMPANY STORES

"Where your dollar is a Big Boy all the time"

Rock Springs Reliance Winton Superior Hanna